# Retrospective

# 2016 Queensland Core Skills Test







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### Foreword

The *Retrospective* is an annual publication that provides detailed and wide-ranging feedback on the Queensland Core Skills (QCS) Test and the responses of students.

The core skills are the common curriculum elements that are within the curriculum experience of most senior students. The level of sophistication demanded by the test is appropriate for Year 12 students. It is a cross-curriculum test, which means that it does not test the content of specific subjects. Rather it tests the skills learnt from the combination of subjects in a balanced curriculum.

The QCS Test consists of four testpapers — a Writing Task (WT), a Short Response (SR) testpaper and two Multiple Choice (MC) testpapers. Students experience a variety of stimulus material such as prose passages, poems, graphs, tables, maps, mathematical and scientific data, cartoons, and reproductions of works of art.

The MC response sheets are computer marked. The WT and SR testpapers are marked each year in the first week of the September school holidays. Two marking operations are held concurrently and involve hundreds of carefully trained Queensland teachers. In 2016, the responses of approximately 27040 students were marked by 190 WT markers and 305 SR markers. Each response is double marked, with referee marking taking place if required.

The *Retrospective* is a definitive and descriptive report on the integration of the test specifications, the expectations of the test constructors, and the performance characteristics of the students. It also provides information on the relative worth of items on the test and provides data that allow the determination of student achievement on the test.

This publication is written for several audiences. At the school level, it offers advice to future candidates and it supports teacher efforts to prepare students and build their confidence with respect to sitting the test. For each subtest, ideas, strategies and reminders are given. In addition to being valuable for schools, anyone interested in cross-curriculum testing will find the *Retrospective* informative.

Because of copyright issues, the *Retrospective* does not include copies of the testpapers. All schools receive copies of the testpapers when the QCS Test is administered. Hard copies can be purchased from the Queensland Curriculum and Assessment Authority. Electronic versions cannot be provided because of copyright considerations.

Chris Rider Chief Executive Officer

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# Multiple Choice (MC) I & II

The 2016 MC subtest consisted of two testpapers, each with 25 verbal and 25 quantitative items. For an item, the facility (F) is the proportion of students who gave the correct response; it is expressed as a percentage. For the 2016 MC subtest, the average facility (AF) was 51.5%. The average facility on verbal items was 50.9%, and on quantitative items was 52.1%. The average facility for MC I was 50.1% and for MC II was 52.9%. Males performed better than females (the average facility for males was 54.1% and for females 49.4%). On MC I, facilities for items ranged from 23% (item 13) to 82% (item 6), and on MC II from 28% (item 94) to 85% (item 52).

Within the verbal domain, stimulus materials included extracts from novels, plays, memoirs, quotations, short stories, cartoons, anecdotes and commentaries. Within the quantitative domain, stimulus materials included formulae, algebraic expressions, diagrams, illustrations, tables, graphs and maps. Epistemic areas covered included English language and literature, literary theory, philosophy, ethics, civics, biology, physics, chemistry, astronomy, physiology, history, geography, architecture, and both pure and applied mathematics.

The following table summarises data about the 24 units that made up the 2016 MC subtest. The main Common Curriculum Elements (CCEs) tested in each unit are listed. The order of the CCEs for each unit does not reflect the order of the items, nor does it imply a cognitive hierarchy. The baskets into which CCEs are grouped are shown in Appendix 3.

# MC I & II 2016 summary

	Unit	Item	Key	Basket	F	AF (%)	Common Curriculum Elements
1	Life	1	А	α	54		4 interpreting the meaning of words or other
	(poem)	2	D	θ	63	58	symbols 29. comparina, contrastina
		3	D	β	56		45 judging/evaluating
2	Roman calendar	4	В	α	73		
	(table; arithmetic)	5	С	φ	80	-	13 recording/noting data
		6	В	φ	82	76	16 calculating 31 interrelating ideas/themes/issues
		7	С	β	71	-	
3	Gobi desert	8	D	θ	48		
	(prose nonfiction;	9	В	θ	66	-	33 inferring
	memoir)	10	Δ	θ	61	56	43 analysing 45 judaina/evaluatina
		10	D	θ	49	-	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
4	Punch cards	12	A	α	51		
	(illustrations;	13	D	φ	23	-	4 interpreting the meaning of words or other
	mathematical rules)	14	С	α	75	4.6	symbols 7 translating from one form to another
		15	В	α	60	40	16 calculating
		16	А	β	36		60 sketching/drawing
		17	С	π	30		
5	Tact	18	D	α	52	-	4 interpreting the meaning of words or other
	(novel)	19	В	θ	50	-	symbols
		20	A	α	68	49	28 empathising
		21	D	θ	35	-	33 inferring
		22	A	π	42		45 unutysing
6	Moon phases	23	C	α	48	-	
	(giapii)	24	C	α	51	-	6 interpreting the meaning of tables,
		25	D	α	42	51	diagrams, maps or graphs 7 translatina from one form to another
		26	C	α	53	-	,
		27	B	α	61		
1	Malls (prose nonfiction;	28	(	π	28	-	4 interpreting the meaning of words or other symbols
	architecture & society)	29	A	α	49	45	11 summarising/condensing written text
		30 21		B	63		38 generalising 43 analvsina
8	lucas numbers	32	C B	P A	41 60		
	(number sequence)	33	B	θ	69	-	17 estimating numerical magnitude
		34	D	ß	44	-	32 deducing
		35	A	θ	35	47	35 extrapolating
		36	С	θ	47		49 perceiving patterns
		37	Α	φ	30		

Unit	ltem	Key	Basket	F	AF (%)	Common Curriculum Elements	
9 Poststructuralists	38	В	θ	61		33 inferrina	
(prose nonfiction; philosophy)	39	Α	θ	48	45	35 extrapolating	
	40	Α	θ	34		43 analysing 45 iudaina/evaluatina	
	41	D	θ	39			
10 Hydrocarbons	42	В	α	32		6 interpreting the meaning of tables.	
(chemistry diagrams)	43	D	α	30	35	diagrams, maps or graphs	
	44	A	θ	38		7 translating from one form to another 33 inferrina	
	45	В	α	40			
11 Libraries	46	D	θ	50		4 interpreting the meaning of words or other	
(prose nonfiction; civics)	47	С	β	39		symbols	
,	48	В	α	60	48	31 interrelating ideas/ themes/ issues	
	49	D	θ	46		33 inferring	
	50	Α	β	44		43 analysing	
12 <i>Idealists</i> (cartoon; philosophy)	51	D	α	70	70	5 interpreting the meaning of pictures and illustrations	
13 Training zones	52	Α	φ	85			
(formulae)	53	D	φ	72	67		
	54	В	φ	57		16 calculating	
	55	Α	φ	70		19 substituting in formulae 33 inferring	
	56	В	φ	62			
	57	С	θ	55			
14 Rematch	58	В	α	46		4 interpreting the meaning of words or other	
(short story)	59	D	θ	74	<b>_ _ _ _ _ _ _ _ _ _</b>	symbols	
	60	С	θ	64	59	31 Interretating laeas/ themes/ issues 33 inferring	
	61	Α	β	53		43 analysing	
15 Quotations	62	D	θ	42	/1	29 comparing, contrasting	
	63	Α	β	40	41	43 analysing	
16 Makruk	64	В	β	49			
(board game)	65	D	α	82		6 interpreting the meaning of tables,	
	66	В	β	57	55	diagrams, maps and graphs 36 applvina strateaies to trial and test ideas	
	67	В	α	45		45 judging/evaluating	
	68	С	θ	43			
17 Humorous story	69	Α	α	68			
(prose nonfiction; literature)	70	D	θ	30		4 interpreting the meaning of words or other	
	71	Α	α	59	48	symbols 33 inferring	
	72	С	θ	56		43 analysing	
	73	Α	θ	26			

Unit	Item	Key	Basket	F	AF (%)	Common Curriculum Elements	
18 <i>Lakes</i> (table, diagram;	74	D	β	44		16 calculating	
geography)	75	В	φ	50		19 substituting in formulae	
	76	D	Ð	55	45	29 comparing, contrasting 32 deducing	
	77	C	φ	48		41 hypothesising	
	/8	C	θ	30			
19 Bats (graph; biology)	79	В	α	39	39	6 interpreting the meaning of tables, diagrams, maps or graphs	
20 Power	80	Α	α	57	55	7 translating from one form to another	
(formulae; physics)	81	С	φ	52		19 substituting in formulae	
21 History	82	А	α	50		4 interpreting the meaning of words or other	
(novel)	83	С	θ	44	51	symbols	
	84	В	θ	49	51	9	33 inferring
	85	D	π	60		43 analysing	
22 Tone	86	В	θ 68	6 interpreting the meaning of tables			
(diagram, graph;	87	C	φ	44	44 41 48		diagrams, maps or graphs
88 A 89 D	88	Α	φ	41		15 graphing	
	π	53	40	32 deducing			
	90 C α 46 37 4	37 applying a progression of steps to achieve					
	91	Α	φ	37		the requirea answer	
23 Sundial	92	В	θ	72			
(playscript)	93	С	α	59		4 interpreting the meaning of words or other	
	94	В	β	28	51	symbols 33 inferring	
	95	D	β	43		38 generalising	
	96 C θ 54						
24 Conscience	97	С	θ	70	70 49 64 53	11 cummericine (condensine written text	
(quotations; ethics)	98	A	β	49		29 comparing, contrasting	
	99	В	π	64		- 53 4	30 classifying
	100	D	β	30		45 analysing	
	Average facility on subtest				51.5		

# **MC I commentary**

This section gives a brief outline of each unit. Two units (5 and 8) are singled out for detailed analysis.

#### Unit 1 Life

The first unit on this testpaper is based on a short poem by Paul Dunbar.

#### Unit 2 Roman calendar

This unit is based on changes to the ancient Roman calendar. The items required finding relevant information in the table and performing calculations.

#### Unit 3 Gobi desert

The short, memoir-style text in this unit recounts the experiences of two fellow travellers in the Gobi Desert.

#### Unit 4 Punch cards

This unit required students to understand the logic underlying punch cards, which were used to enter data into computers. Various pieces of information had to be combined and applied in the items.

#### Unit 5 Tact

This unit was based on an extract from a novel. The text is mostly direct dialogue, as would be found in a play; so the challenge here was to identify subtext. In the extract, a senior detective briefs a junior detective about a case involving an attack on winners in a local raffle.

Item 18: Students were required to interpret the meaning of Finch's words regarding his tactfulness. Finch says that he is 'too bad [at tact] to admit it' (i.e. to admit being tactful), but 'too good [at being tactful] to claim it [tactfulness] in the circumstances'. In this convoluted way, Finch means that he thought himself to be tactful, yet regarded it as tactless to boast of it. Option D is the key. Option A is incorrect because Finch aims to be humble rather than proud regarding his level of tactfulness. Option B fails to notice Finch's admission that he thinks himself tactful in his attempt to use tact with his superior. Option C claims Finch admits to lacking tact and is happy to work without it, whereas Finch admits to being tactful and tries to act tactfully.

Item 19: This item asked why tact might be needed in such an investigation. Option B is the key. Tomkins wants Finch to be tactful so as not to frighten the winners when he informs them of potential danger. Option A is not Tomkins's view (he hadn't yet thought that it might warn the attacker of the investigation), but it is one that Finch introduces. Even though the police wish to discover the identity of the attacker, option C forms no part of Tomkins's reasons for wanting Finch to be tactful. Option D is incorrect because Tomkins does not ask Finch to say that the police will neutralise all danger.

Item 20: Students were required to make a judgment about the sort of officer Finch is. Finch shows himself to be capable, as Tomkins himself almost grudgingly acknowledges in lines 2, 7 and 20; however, Finch is also inclined to interrupt his superior, as in lines 13 and 26. The key is therefore option A. Option B is incorrect because Finch's interruptions reveal his insensitivity, and it undermines his attempts to cooperate with Tomkins. Option C is incorrect despite the fact that Finch addresses his superior as 'Sir'; his interruptions reveal an offhandedness that Tomkins, at least, interprets as impoliteness — there are indications that Tomkins feels Finch oversteps the mark. Option D is incorrect because Finch keeps pushing himself and his views forward, which can hardly be described as 'reserved'; also, though Finch shows himself to be ahead of the curve, and to that extent 'efficient', his haste and arrogance immediately undermine that and render him inefficient in his relationships with colleagues and superiors.

Item 21: In this item, students were required to decide why Tomkins is 'pleased' that Finch understands him. Option A suggests that Tomkins values Finch's help; this is unlikely, since by this stage Tomkins is speaking with Finch through gritted teeth (line 27; students need to understand the import of that visual metaphor); this clearly indicates a measure of frustration. Option B implies that Tomkins is relieved that he is finally getting through to Finch; again, this too is unlikely — the extract suggests that Tomkins is becoming more rather than less tense. Option C takes the view that Tomkins is making an effort to show his appreciation for Finch's contribution; this is incorrect. Tomkins's efforts are directed toward keeping his cool; he is not expressing his appreciation. Tomkins says what is formally 'polite' rather than openly displaying his displeasure (even if he successfully conveys his displeasure in saying it; though if Finch recognises the irony in his superior's comment, he chooses to ignore it). Option D is the key.

Item 22: This item required students to identify the change, over the course of the extract, in the way that Tomkins responds to Finch. Initially there is evidence that Tomkins sees some merit in Finch's recent conduct. As the conversation progresses, Tomkins is put off balance by Finch's insightful interjections. Finally, Tomkins is trying to control his frustration with the constable's persistent interruptions. The key is therefore option A. Option B is incorrect because the narrator says that Tomkins is at that point trying to appear less official (line 5); next, Tomkins seems more critical of himself than Finch (line 20). In the end, Tomkins does not appear grateful but rather regretful of the fact that he must depend on Finch. Option C is incorrect because it would be going too far to say that the cautious Tomkins is initially 'pleased' with Finch; then, it is not anger that Tomkins experiences but surprise at Finch's pushy efforts to impress him. Lastly, Tomkins is not 'reconciled' with Finch; rather, barriers seem to be forming. Option D is incorrect because Tomkins is not initially hesitant: he tests the waters with his first question to Finch and is satisfied; then, Finch's over-eager attitude casts a question over Tomkins's initial assessment of him. Tomkins seems less than encouraged; finally, Tomkins becomes increasingly frustrated with Finch — though his words are measured, Tomkins is not lukewarm toward Finch; rather, he appears to be becoming heated.

#### Unit 6 Moon phases

This unit is based on a graph showing the phases of the moon and the changing distance of the moon from the Earth, across five months in a particular year. The items in this unit required students to find and apply relevant information from the graph.

#### Unit 7 Malls

This unit is based on an opinion piece by Australian writer David Malouf on the social value of shopping malls.

#### **Unit 8** Lucas numbers

This unit is based on the set of whole numbers known as Lucas numbers. The first fourteen Lucas numbers are given in a table. The method for generating the next term in the sequence — by adding together the two previous terms — is explained and exemplified.

Item 32: This item required students to extrapolate the sequence and find the value of the largest term with four digits. The sequence beyond the values given in the table continues ... 1364, 2207, 3571, 5778, 9349, 15127, ... Thus the largest Lucas number below 10000 is 9349, which is between 9000 and 9499. Thus option C is the key. The other options are based on miscalculations. For example, reversing the digits of  $L_{15}$  so that it reads 1463 instead of 1364 will result in  $L_{19} = 9844$ , which is option D. If 1364 is correctly calculated and then 521 is added instead of 843, the largest four-digit number in the sequence is 8383, which is option A. Keeping track of the terms in the sequence is made easier if the extended sequence is written down.

Item 33: Since two odd numbers always sum to an even number and an even number plus an odd number always sums to an odd number, the  $L_n$  row of the table exhibits an easily recognised pattern: odd-odd-even-odd-odd-even. This item invited students to choose which one of four generalisations matched the relationship between the numbers in the *n* row and those in the  $L_n$  row. Option B is the key — the *n*-values that match the even values of  $L_n$  are 3, 6, 9, 12, etc. Option A works only for n = 6 ( $L_n = 18$ ). Option C works for n = 2 and 4 but not for n = 6. Option D works for  $L_n = 18$  and n = 6 but not for  $L_2 = 3$  or  $L_{10} = 123$ , so counter-examples abound.

Item 34: The last digits of Lucas numbers follow a cyclic pattern that is 12-digits long. This item referred to the table and specified the first nine digits of the cycle to show what was meant. But to answer it successfully

it was necessary to find the length of the cycle and then apply it to find first where  $L_{91}$  is in the sequence and then what number it will have as its last digit. The 84<sup>th</sup> Lucas number will end in the same digit as the twelfth. Counting on, we get that the 91<sup>st</sup> Lucas number should end in the same digit as  $L_7$ . This is 9, so option D is the key. Option B results from taking the remainder of 7 when 84 is divided into 91 instead of the seventh digit on the list. Option C involves miscounting from the start of the list or not counting far enough. Option A would have been chosen by those who miscalculated the length of the cycle or took the list of terminal digits given as the complete list and did not interrogate the table.

Item 35: This item tested whether the notation used in this unit was properly understood, since a careful explanation of the relationship between  $(L_n)^2$  and  $L_{2n}$  was given in the introduction. A first reading eliminates options C and D, which depend on  $8^2 = 64$  being relevant, which is not so in this case. A second reading shows that for an even suffix (here 32), 2 has to be subtracted from rather than added to  $(L_n)^2$  to get  $L_{2n}$ . This method can be easily confirmed using the values for  $L_4$  and  $L_8$  (for example) listed in the table. Option A gives  $7^2 - 2 = 49 - 2 = 47 = L_8$  and is therefore the key. The technique used in option B gives  $(L_6)^2 + 2 = 18^2 + 2 = 324 + 2 = 326$ , but  $L_{12} = 322$ .

Item 36: Four Lucas numbers larger than those listed in the table were given. When 2786 is divided into one less than each one, only option C is a whole number (23), and since 23 is a prime number it follows the rule laid out in the additional information - 64079 is  $L_{23}$ .

Item 37: The problem posed in this item — about how many digits the number  $L_{300}$  contains — can be solved with a rates approach. Using the fact that  $L_{78} (\approx 2 \times 10^{16})$  has 17 digits, it can be calculated that  $L_{312}$  has about  $4 \times 17 = 68$  digits. This provides an upper bound that falls between options A and B (63 and 74), suggesting the key should be option A. Alternatively, the additional information also contained the information that  $L_{705}$  has 148 digits. There are 627 (705 – 78) Lucas numbers between  $L_{78}$  and  $L_{705}$ , which shows a length increase of 131 (148 – 17) digits. This suggests that, on average, the length of Lucas numbers increases by one digit every  $627 \div 131 \approx 4.786$  increase in the suffix. So  $L_{300}$  should have about  $(300 - 1) = 299 \div 4.786 \approx 62.47$  digits making option A (63) the best estimate. Marshalling the abundance of clues about how to solve this problem and choosing which is the best way to arrive at the estimate was part of this problem. That  $L_{705}$  has 148 digits and 705  $\div 300 = 2.35$  can be used to calculate that  $L_{300}$  has about  $148 \div 2.35 \approx 62.978$  digits  $\approx 63$ .

#### **Unit 9** Poststructuralists

This unit's extract comments on the probably unfamiliar subject matter of poststructualism and has a rather florid writing style. Despite appearances, students were not required to know anything about philosophy to gain a good understanding of the material.

#### Unit 10 Hydrocarbons

This unit was based on graphic conventions used to represent hydrocarbon molecules. The unit required skill in visualisation and pattern recognition.

#### **Unit 11** Libraries

This unit is based on two opinions about the practice of culling library collections.

## **MC II commentary**

This section gives a brief outline of each unit. Two units (22 and 23) are singled out for detailed analysis.

#### Unit 12 Idealists

The second testpaper opens with an item based on interpretation of a cartoon that comments on the differing perspectives of realists and idealists.

#### Unit 13 Training zones

This unit required students to manipulate several formulas that related maximum heart rate to age. The items involved substituting values into one or more of the formulas, or using simple algebra to solve problems.

#### Unit 14 Rematch

In this unit students worked with text that is a humorous and witty retake on the old fable about the hare and the tortoise.

#### Unit 15 Quotations

This unit required students to analyse a short quotation and to compare and contrast four other quotations.

#### Unit 16 Makruk

This unit is based on a board game from Thailand called Makruk. Movement rules were provided and students were required to understand how various pieces are permitted to move to be able to respond to the items.

#### **Unit 17** Humorous story

The items in this unit are based on a text about the difference between what the author calls humorous stories and comic stories.

#### Unit 18 Lakes

This unit required students to locate and apply data about lakes. The data were presented in tabular form. Items included calculations and application of a formula for a measurement known as the shoreline development index.

#### Unit 19 Bats

This single-item unit required students to correctly describe the frequency of sound emitted by a bat, as represented in a graphical format.

#### Unit 20 Power

This unit is based on ways to measure the power output of electrical devices. The first item required students to translate a verbal description into mathematical symbols, while the second item required students to integrate two formulas and to substitute values into those formulas.

#### Unit 21 History

The items in this unit are based on an extract from a novel in which one of the characters gives his opinion about the writing of history.

#### Unit 22 Tone

In this unit, students were given information about a siren that was used in 19th century experiments with musical tones. The siren consisted of a metal disc that was caused to spin on its axis by a drive belt attached to a hand-operated drive-wheel. The disc had holes arranged in a band near its circumference, so all the holes were equidistant from the centre of the disc and from each other. The outlet of a tube, the other end of which was connected to an air pump, was positioned over the band of holes. When the pump was turned on and the siren's drive-wheel turned by hand, air 'puffed' though a hole whenever the tube outlet and a hole aligned. A series of rapid 'puffs' of air produced a tone.

Item 86: This item required students to determine how a siren with a 10-hole disc might produce a tone of the same pitch as one with a 12-hole disc. As the pitch of a tone depends on the number of 'puffs' per second, a siren with a 12-hole disc should spin more slowly than one with a 10-hole disc. The key is therefore option B. Option A is incorrect as it suggests that a siren with a 12-hole disc should spin faster than the other; this would produce a *higher* pitch. Options C and D are both incorrect because they suggest that placing the band of holes at different distances from the axis will have some effect on pitch. In fact, in a disc spinning on its axle, bands of holes nearer or further from the axis will pass the outlet of the tube at the same rate and will therefore produce the same pitch.

Item 87: Students were required to calculate the revolutions per minute that an 8-hole disc would need to complete to produce a tone of frequency 264 Hz. 264 puffs per second gives a frequency of 264 Hz, and an 8-hole disc is needed to complete a rotation 33 (264  $\div$  8) times per second to produce this frequency. In one minute, this disc will rotate 1980 (33  $\times$  60) times. The key is thus option C. Option A gives the number of times per second. Option B uses the number of Hz. Option D multiplies the required Hz by the number of holes.

Item 88: This item describes a single disc that has three bands of holes at different distances from the axis. One band has 16 holes. This band gives a tone with a frequency  $\frac{4}{3}$  times that of the second band, and the second band gives a frequency  $\frac{3}{2}$  times that of the third band. Students were required to determine the number of holes in the third band. From the information given, the 16-hole band gives the highest frequency. So, the second band has three-quarters the number of holes as the first (12 holes), and the third has two-thirds the number of holes as the second band (8 holes). The key is thus option A. Option B is obtained by finding three-quarters of 16. Option C results from finding three-quarters of 16 and then multiplying 12 by  $\frac{3}{2}$ . Option D results from multiplying 16 by the product of  $\frac{4}{3} \times \frac{3}{2}$ ; this yields 32.

Items 89–91 relied on some additional information relating to definitions of amplitude and wavelength.

Item 89: This item set up the following scenario: A person begins to turn the drive-wheel of a siren until a tone of a certain pitch is produced. The drive-wheel is then released and the siren allowed to slow down and return to silence. Four representations of changing frequency and amplitude were given and students were asked to choose the one that best graphed the stipulated scenario. Option A graphed a tone that maintained a constant pitch throughout, beginning quietly, becoming gradually louder and then gradually quieter until it was silent. Option B began with a high-pitched, quiet tone; as it became louder, it also became lower in pitch; the tone then became quieter and higher in pitch. Option C began with a quiet, highly-pitched tone; as it became louder it became lower in pitch and continued to become lower pitched as it returned to silence. With option D, the tone began quietly at a low pitch; as it increased in pitch it also became louder; it then became lower in pitch as it returned to silence. Option D is therefore the key.

For Items 90 and 91, further additional information was given in the form of a graph that showed the frequency wave patterns for three different tones labelled P, Q and R.

Item 90: Students were required to determine the frequency (in Hz) of tone Q. According to the graph, tone Q vibrates five times in 0.015 seconds; in one second there will be  $\frac{5}{0.015}$  vibrations; this gives about 330 Hz; thus option C is the key. To obtain option A the graph is misread to give 3.3 vibrations in 0.015 seconds; this gives 220 Hz. Option B is the frequency for tone P (4 vibrations in 0.015 seconds) while option D is the frequency of tone R (6 vibrations in 0.015 seconds).

Item 91: Using the wavelength information for tones P and R, students were required to find a conversion factor that would give the number of holes needed to produce tone R based on the number of holes that produce tone P. In the same time period, P vibrates four times and R vibrates six times. As R vibrates more rapidly than P, the disc for R would require more holes. So, the number of holes in the disc for P should be multiplied by 6 and divided by 4, or multiplied by  $\frac{3}{2}$ . The key is therefore option A. Option B results if the need to increase the number of holes is misunderstood and the correct procedure is inverted, which would convert R to P. Option C uses a correct procedure, but finds the conversion factor from Q to R. Option D uses an incorrect procedure and finds the factor to convert Q to P.

#### Unit 23 Sundial

This unit is based on an extract from a play about a man named Ian Joyce and his wife Eloise, who believe that sundials are a much better way of keeping time than mechanical timepieces like clocks and watches.

Item 92: Ian's opposition to mechanical timepieces is that, being mechanical, they inevitably run fast or slow and so cannot be trusted. Sundials, by contrast, passively reflect (are 'acted upon' by) the natural movement of the sun, and thus cannot go wrong. It is the naturalness of the sundial's operation that is important to Ian, since he equates naturalness to truth (line 29). Thus option B is the key. Option A is incorrect because Ian is not primarily interested in the sundial's precision; he knows there are ways to correct any imprecision. Option C is incorrect, because the point of the sundial is that it continues to work properly without human intervention. Though building a sundial obviously requires some skill, it is not the level of skill that is at issue in the context of line 2; therefore option D is incorrect.

Item 93: In lines 20–27, Eloise's curious mix of zeal and self-doubt have her saying things that are guaranteed to get Mrs Stubbs's back up. We can appreciate that Mrs Stubbs feels she is being falsely accused by Eloise; option C is therefore the key. Given what we may infer from the extract, Ian is a bit arrogant and self-important. It is very likely that he (and possibly to some extent Eloise as well) looks down on Mrs Stubbs and her husband as being basically ignorant. But there is no evidence in the extract that Mrs Stubbs herself thinks the Joyces regard her and her husband as inferior; therefore option A is incorrect. Option B is incorrect because the Joyces are not in fact advocating that Mrs Stubbs live by a different time zone. Option D is incorrect because there is no evidence in the extract that Mrs Stubbs thinks she is the butt of a practical joke; on the contrary, her anger stems from her belief that the Joyces are being serious in their 'criticism' of her.

Item 94: Mrs Stubbs might be feisty and stubborn, and it is clear she knows little about sundials. But it cannot be argued that makes her naive or old-fashioned. It needs to be remembered that, as a technology, the sundial is old-fashioned as opposed to mechanical timepieces; so in fact it is the Joyces who might justly be accused of being old-fashioned, not Mrs Stubbs. It is doubtful that ignorance of an obsolete technology renders someone 'naive'. Option A is incorrect. Certainly Mrs Stubbs comes across as being straightforward in her manner and has an everyday knowledge of timekeeping technology. She can be described as being 'unsophisticated'. Lines 20–28 give the impression that Mrs Stubbs is an innocent; her sharp retort in line 31 makes it clear to us that she is nobody's fool after all she can see through lan's bluster. Option B is the key. There is little evidence to sustain the notion that Mrs Stubbs is argumentative and obstinate (option C). Her defence of herself and her husband against Eloise's hamfisted comments is entirely reasonable. Nor does Mrs Stubbs offer counterarguments to lan's comments in favour of sundials. She is certainly feisty, but not obstinate. As stated above, in line 31 Mrs Stubbs reveals herself to be wise to lan's bluster. She understands more than the Joyces think she does. So it is incorrect to say she is unable to understand the simplest things (option D).

Item 95: This item required students to choose pairs of words that best described Eloise's personality. Option A is incorrect because there is no evidence that Eloise is either sceptical or questioning; on the contrary, she consistently supports her husband, and never questions his authority; in lines 15 and 16 she defers to his judgment. Option B is partly correct because Eloise does at least have kindly intentions toward Mrs Stubbs, even if she keeps putting her foot in her mouth and making the situation worse; but Eloise is the opposite of self-possessed — she is at sea, emotionally unstable, and looks for guidance from her husband. Option C is incorrect because Eloise demonstrates no ability to control the situation, particularly in relation to her interaction with Mrs Stubbs; Eloise's slavish deference to her husband should not be misconstrued as

inflexibility. Option D is the key: throughout the extract Eloise acts melodramatically — she grieves, she runs, she is in distress, and all over trivial matters, unlike Ian, who would never condescend to helping someone like Mrs Stubbs, Eloise at least tries to engage with her (in her own very clumsy way), and this reflects Eloise's essential sensitivity.

Item 96: This item required students to understand the subtext of Ian's final comment in this conversation. To do this properly, students need to have thought carefully about all of Ian's other comments during the conversation, which together inform the meaning of this final comment. Option A can be eliminated easily, since neither in this comment nor in any previous comments has Ian shown the slightest doubt about his belief in sundials. Option B is incorrect because Ian's final comment does not constitute an argument as such; rather, it stands closer to an affirmation of faith. Option D can be eliminated for similar reasons: since Ian is not presenting a reasoned argument with his final comment, he cannot be said to be a 'voice of reason'; also, 'lonely' is not a word that one can readily attribute to Ian, given all his comments in this conversation. Ian's final comment is a sort of stubborn — almost fanatical — affirmation of belief, dismissive of all other opinions. Option C is therefore the key.

#### Unit 24 Conscience

This unit required students to unpack the meanings of seven comments about conscience, and to compare and contrast their meanings.

# Common Curriculum Elements (CCEs) and the MC format

Of the 49 CCEs, the following cannot be tested directly in MC format, though a few CCEs such as graphing, summarising and manipulating equipment, may be tested at 'second order' i.e. indirectly:

- 11 Summarising/condensing written text
- 12 Compiling lists/statistics
- 13 Recording/noting data
- 14 Compiling results in a tabular form
- 15 Graphing
- 20 Setting out/presenting/arranging/displaying
- 21 Structuring/organising extended written text
- 22 Structuring/organising a mathematical argument
- 26 Explaining to others
- 27 Expounding a viewpoint
- 46 Creating/composing/devising
- 53 Observing systematically
- 55 Gesturing
- 57 Manipulating/operating/using equipment
- 60 Sketching/drawing.

These CCEs can be validly tested in SR format.

# Short Response (SR)

This year's SR subtest comprised 16 items across nine units. As students worked through each unit, they interacted with stimulus material, which was chosen to be challenging and engaging. Test developers paid careful attention to framing each item in a way that made it accessible to most students. The SR testpaper comprised units with stimulus material selected from fields such as mathematics, science, history, the social sciences and literature.

This year's paper was varied in its content, covering a broad range of CCEs. The different tasks included determining cost, ratios, materials for a job, designing to specifications, measuring carefully and constructing circles, interpreting advertisements, creating a play-on-words, providing clear explanations and describing how an actor could convey meaning.

#### Model responses and commentaries on student performance

What follows is an item-by-item report that includes model responses and marking schemes, tables and graphs of the distributions of grades, and commentaries that discuss the tasks. At times, references to specific student responses are included to exemplify observations. As much as possible, model responses are actual student responses. Model responses are those that demonstrate a high level of performance and would have been awarded the highest grade.

For some items, especially the more open-ended ones, responses were extremely varied. For these responses it is not possible to provide examples of the many ways students responded. The detailed, item-specific marking schemes indicate the scope of acceptable responses for different grades. Even for the more closed items the marking schemes demonstrate that different ways of perceiving 'the solution' were able to gain credit.

#### **Marking schemes**

The marking schemes used during the marking operation and included in this section of the *Retrospective* are not designed to be read in isolation. They are only one element of the marking prescription. During the marking operation, markers undergo rigorous training in how to apply the marking schemes to student responses of one marking unit. The training involves careful consideration and application of the material presented by immersers.

All SR items are double marked. This means that a student's response booklet is marked by at least 10 different, independent markers. Referee marking also occurs when necessary.

For organisational purposes during the marking operation, the testpaper units were grouped into five marking units. In 2016, Marking Unit 1 contained testpaper units One and Seven, Marking Unit 2 contained testpaper units Two and Eight, Marking Unit 3 contained testpaper units Three and Five, Marking Unit 4 contained testpaper units Four and Six and Marking Unit 9 contained testpaper unit Nine.

Each marking scheme provides descriptors for up to five creditable grades, as well as the non-contributory grades N (where the response is unintelligible or does not satisfy the requirements of any other grade) and O (where no response has been given).

# SR 2016 summary

Unit	Item	Basket	Common Curriculum Elements by unit
One Drafts	1	π	10 Using vocabulary appropriate to a context 52 Searching and locating information
Two	2	φ	16 Calculating with or without calculators 17 Estimating numerical magnitude
Syrups	3	φ	37 Applying a progression of steps to achieve the required answer 44 Synthesising
Three	4	α	4 Interpreting the meaning of words 10 Using vocabulary appropriate to a context 26 Explaining to others
Tom S	5	β	31 Interrelating themes 46 Creating/composing/devising
Four	6	β	16 Calculating with or without calculators 20 Setting out/presenting/arranging/displaying
Blocks	7	π	50 Visualising 53 Observing systematically
Five Blurb	8	θ	<ul><li>11 Summarising/condensing written text</li><li>31 Interrelating ideas/themes/issues</li><li>44 Synthesising</li></ul>
Six Windows 10 α	φ	<ul> <li>16 Calculating with or without calculators</li> <li>19 Substituting in formulae</li> <li>32 Reaching a conclusion which is necessarily true provided a given set of assumptions is true</li> </ul>	
	10	α	37 Applying a progression of steps to achieve the required answer 43 Analysing 57 Manipulating/operating/using equipment
Seven	11	α	4 Interpreting the meaning of words 5 Interpreting the meaning of illustrations 26 Explaining to others 27 Expounding a viewpoint
Smoking	12	θ	<ul> <li>27 Explanding a viewpoint</li> <li>31 Interrelating</li> <li>43 Analysing</li> <li>48 Justifying</li> </ul>
Eight	13	φ	<ol> <li>Finding material in an indexed collection</li> <li>Estimating numerical magnitude</li> <li>Structuring a mathematical argument</li> </ol>
Sprinklers	14	θ	35 Extrapolating 37 Applying a progression of steps to achieve the required answer 44 Synthesising
Nine	15	θ	<ol> <li>Compiling lists</li> <li>Explaining to others</li> <li>Empathising</li> <li>Inferring</li> </ol>
Students	16	α	43 Analysing 52 Searching and locating information 55 Gesturing

Note: CCEs specific to an item are listed on the item's marking scheme.

The baskets into which CCEs are grouped are shown in Appendix 3.

# Unit One

The item in this unit is based on an extract describing a walk through part of an Australian city.

The following table shows the percentage of responses awarded the various grades for the item in this unit.

	A	В	C	D	E	N	0
ltem 1	24.6	20.3	31.7			21.6	1.8
A shaded box indicates that the grade was not available for that item.							

#### Item 1

#### Commentary



Item 1 is a two-star item that tested achievement in CCEs 10 *Using vocabulary appropriate to a context* and 52 *Searching and locating* ... *information*.

This item required students to find the best match from the extract for the given phrases.

An A-grade response needed to provide five exact phrases matched correctly.

In some responses, more words than were needed to match the given phrase were provided and this did not show full command of vocabulary.

Students should remember that it is important to follow the directions in the stem. When directed to provide exact phrases, students should not give extra words.

first-draft phrase	phrase used in the extract
sun-drenched expanses	(for) shadeless miles
peripheral mercantile areas	(of) marginal commercial districts
strange but dreary incentives	surreally unappealing inducements
pleasant secluded suburb	(a) lovely hidden borough
imposing distinction	(often) impressive venerability

#### Model response

UNIT ONE ITEN	A 1		
PERFORMANCE DOMAIN	10 Using vocabulary appropriate to a context	52 Searching and locating inforn	mation
A	B	C	z
The response provides <ul> <li>the five exact phrases matched correctly.</li> </ul>	The response provides         • four exact phrases matched correctly.         • four exact phrases matched correctly         • three exact phrases matched correctly and, additionally, allowing for at most one missing word each,         • two of the required phrases matched correctly.	The response provides <ul> <li>two exact phrases matched correctly.</li> <li>OR</li> <li>OR</li> </ul> <li>The response, allowing for at most one missing word each, provides <ul> <li>four of the required phrases matched correctly.</li> </ul> </li>	Response is unintelligible or does not satisfy the requirements for any other grade.
Model Response:			No response has been made
first-draft phrase	phrase used in the extract		at any time.
sun-drenched expanses	(for) shadeless miles		
peripheral mercantile areas	(of) marginal commercial districts	Notes: 1. The only acceptable additional word for each phrase is show	wn in brackets in
strange but dreary incentives	surreally unappealing inducements	the model response. 2. As long as the word is unambiguously recognisable, incorrectolerated.	ect spelling is
pleasant secluded suburb	(a) lovely hidden borough	<ol><li>Matching the exact phrase correctly other than by writing the space provided, is only acceptable when the match is unamb</li></ol>	t the words in the abiguous.
imposing distinction	(often) impressive venerability	Marking Unit	+1 1 of 3

# Unit Two

The items in this unit are based on the costs and mixes of three different cordial syrups.

The following table shows the percentage of responses awarded the various grades for the items in this unit.

	A	В	C	D	E	N	0
ltem 2	65.2	5.3	4.9			20.5	4.1
Item 3	19.4	7.7	22.8	2.7		35.4	12.1
	A shad	ed box indicat	tes that the gr	ade was not a	vailable for th	at item.	<u>.</u>

#### Item 2

#### Commentary



Item 2 is a two-star item that tested achievement in CCE 16 *Calculating with or without calculators*.

This item presented students with a table showing three different cordial syrups, the volumes of the bottles they are sold in and their prices. Columns to record the price per 100 mL of syrup, the recommended mix (in terms of parts of water per one part of cordial syrup) and the cost of a 250 mL drink of the prepared cordial are also part of the table. Students were required to find the price per 100 mL of two of the syrups.

The cue instructed students to show all steps and to give the prices in cents.

An A-grade response needed to show working that resulted in the correct price, in cents, for the syrups named Fresola and Cherizade.

Some responses gave answers in dollars rather than the cents required by the cue and thus could not be awarded the highest grade.

Rates problems always require correct placement of the quantities being compared. The rate required, i.e. cents per 100 mL (cost divided by volume), was in some responses replaced by mL per cent (volume divided by cost). Using the required units of measurement, A per B always means quantity A divided by quantity B. It is always important to check any results for reasonableness.

#### Model response

Based on the bottle size and the selling price of Fresola and Cherizade, find the price per 100 mL of each of those syrups.

Show all steps.	2500 mL costs \$4.36	1500 mL costs \$ 3.95
Give the prices in cents.	100 mL costs x	100 mL costs x
	x= 100 ÷ 2500 × 436	x = 100 ÷ 1500 × 395
	= 17.44 c	= 26.33 c
cost of	100 mL of Fresola = 17.4 c	cost of 100 mL of Cherizade = 26.3 c

UNIT TWO ITEM	1 2 Marking Scheme		
PERFORMANCE DOMAIN	16 Calculating with or without calculators		
A	B	C	Z
The response provides working resulting in the correct price for Fresola in cents the correct information or working is used to answers.	The response provides         • the correct price for Fresola in cents or dollars         • the correct price for Cherizade in cents or dollars.         • The response, allowing for at most one observable mechanical error and consequentially correct working a applicable, provides         • a price for Fresola given in cents or dollars.         • a price for Cherizade given in cents or dollars.	The response provides the correct price for Fresola in cents or dollars. OR	Response is unintelligible or does not satisfy the requirements for any other grade. O No response has been made at any time.
Notes: 1. The correct price per 100 mL for Fresola i 2. The correct price per 100 mL for Cherizar 3. The correct price per 100 mL for Cherizar 4. The correct price per 100 mL for Cherizar 5. An observable mechanical error is a trans- operation or inappropriate rounding. 6. Appropriate movement of the decimal poin	in cents is 17.44, 17.4 or 17. de in cents is 26.3 recurring, 26.3 or 26. in dollars is \$0.1744, \$0.174 or \$0.17. de in dollars is \$0.263 recurring, \$0.263 or \$0.26. cription error, an incorrect result to a correctly stated nt without a stated operation is acceptable.	Model Response: 2500 mL costs \$4.36 100 mL costs \$4.36 100 mL costs <i>x</i> <i>x</i> = 100 + 2500 × 436 = 17.44 c cost of 100 mL of Fresola = 17.4 c 1500 mL costs \$3.95 100 mL costs \$3.95 100 mL costs \$3.95 26.33 c cost of 100 mL of Cherizade = 26.3 c	
		Marking Un	nit 2 1 of {

#### Item 3

#### Commentary



Item 3 is a three-star item that tested achievement in CCEs 17 *Estimating numerical magnitude*, 44 *Synthesising* and 37 *Applying a progression of steps to achieve a required answer*.

This item comprised two parts. In the first part, students were required to calculate the cost of a 250 mL drink of cordial using Fresola syrup with the recommended mix stated in the table. In the second part, students had to determine the mix that should be recommended for Cherizade, so that the cost for a 250 mL drink of this cordial would be 9.4 cents.

The cue for the first part directed students to show all steps and to give the cost in cents. In the second part, the students were directed to show all steps again and to make their reasoning clear.

An A-grade response needed to show correct working for the first part that provided the correct cost of the 250 mL of Fresola in cents and, for the second part, provided the recommended mix of 6 parts water to 1 part syrup. The reasoning needed to be evident and clear and no incorrect information, calculations or reasoning could be used to obtain the answers.

Responses showed a variety of methods were used in the two parts of this item. For the first part, the knowledge of ratio was demonstrated when the mix of 4:1 was correctly interpreted as needing to find one-fifth of 250 mL as the amount of syrup in the cordial drink to then be able to calculate the cost. In the second part, one of the many valid methods that could be used to find the recommended mix was to reverse the procedure used in the first part. Once again it was necessary to understand the concept of ratio as a fraction.

Students should expect that the calculations or steps used in the first part of an item could be useful in determining the solution to the second part as this is generally how items with multiple parts are constructed. This is helpful with time management.

#### Model response

I.	Calculate th the recomm	e cost of a 250 mL drink of cordial made using Fresola syrup. Assume that ended mix is used.
Show	v all steps.	mix 4 parts water to 1 part syrup therefore 5 parts in total
Give	the cost in cents	volume of syrup in the drink = $250 \text{ mL} \div 5 \text{ parts} = 50 \text{ mL/part}$
		cost of syrup per mL = 436 c ÷ 2500 mL = 0.1744 c/mL
		cost of drink = 0.1744 × 50 = 8.72 c
II.	Determine t a 250 mL dr	he mix that should be recommended for Cherizade so that the cost for rink of cordial made using that syrup would be 9.4 cents.
Show	v all steps.	ost of syrup per mL = 395 c ÷ 1500 mL = 0.2633 c/mL
Make reaso	e your Voning clear.	olume of syrup in a drink = $9.4 c \div 0.2633 c/mL = 35.7 mL$
	p	parts in a drink = 250 mL ÷ 35.7 mL = 7.0027
	5	o there are 7 parts each of 35.7 mL, one of which is syrup
	p	parts of water = 7 – 1 = 6 parts
	t	he recommended mix is 6 parts water to 1 part syrup

BEBEODMANCE DOMAN	17 Estimating numerical ma	gnitude	44 Synthesising	
FERFORMANCE DOMAIN	37 Applying a progression o	f steps to achieve the required :	ınswer	
A	B	С	D	z
he response shows correct working that	The response shows correct working that	The response shows correct working that	The response	Response is
or part I provides	for part I provides	for part I provides	for part I, allowing for at most one	unintelligible or does not
the correct cost of the 250 mL drink of Fresola in cents	the correct cost of the 250 mL drink of Fresola in cents or dollars	the correct cost of the 250 mL drink of Fresola in cents or dollars.	observable mechanical error and any consequentially correct working as	satisfy the requirements
or part II provides	for part II provides	OR	applicable, provides • a cost of the 250 mL drink of Freeda in	for any other
the recommended mix of 6 narts water to 1 nart svrun.	<ul> <li>the 250 mL drink comprises 7 parts of water and svrun.</li> </ul>	The response	cents or dollars.	
he reasoning is evident and clear.	The reasoning is evident and clear.	for part I, allowing for at most one	OR	0
o incorrect information, calculations or	No incorrect information, calculations or	observation incomanical error and any consequentially correct working as	The response	
asoning are used to obtain the answers.	reasoning are used to obtain the creditable parts of the answers.	applicable, provides • a cost of the 250 mL drink of Fresola in	for part II provides • some correct working that could be used	No response has been mad
	OR	cents or dollars	to obtain the recommended mix.	at any time.
otes:	The response, allowing for at most one observable mechanical error and any	for part II provides • some correct working that could be used	Model Response:	
The reasoning is evident and clear if no	consequentially correct working as	to obtain the recommended mix.	L	
inferences need be made.	applicable,	OR	mix 4 parts water to 1 part syrup therefore 5 p volume of syrup in the drink = $250 \text{ mJ} + 5$ near	rts in total s = 50 mI /nart
. The correct cost of the 250 mL drink of Fresola in cents is 8.72, 8.7, 8.5 or 9.	tor part I provides • a cost of the 250 mL drink of Fresola in	The response	cost of syrup per mL = $436 c \div 2500 mL = 0.17$	4 c/mL
The correct cost of the 250 mL drink of	cents or dollars	for part II, allowing for at most one	cost of drink = $0.1744 \times 50 = 8.72$ c	
Fresola in dollars is \$0.0872, \$0.087, \$0.085 or \$0.09.	for part II provides	observable mechanical error and any consequentially correct working as	II.	
An observable mechanical error is a	Some indication of what is being calculated	applicable, provides • • • mix of water to evenu	cost of syrup per mL = 395 c + 1500 mL = 0.26 volume of syrup in a drink = 9.4 c + 0.2633 c/m	3 c/mL L = 35.7 mL
transcription error, an incorrect result to a correctly stated operation or	is provided.	a mix or watch to syrup. No incorrect reasoning is used to obtain the	parts in a drink = $250 \text{ mL} \div 35.7 \text{ mL} = 7.0027$	
inappropriate rounding.	No incorrect reasoning is used to obtain the answers.	answer.	so there are $\ell$ parts each of 55.7 mL, one of wind parts of water = $7 - 1 = 6$ parts the recommended mix is 6 parts water to 1 parts water	cu is syrup syrup

# Unit Three

The items in this unit are based on a type of deliberate play-on-words called Tom Swiftlys. The name is based on the way the main character spoke in a series of adventure stories written in the early 1900s.

The following table shows the percentage of responses awarded the various grades for the items in this unit.

	А	В	C	D	E	N	0			
ltem 4	12.3	18.1	33.0	31.7		2.6	2.4			
ltem 5	5.6	21.0	57.6	11.4		2.1 2.3				
	A shad	ed box indicat	tes that the gr	ade was not a	vailable for th	at item.				

#### Item 4

#### Commentary



Item 4 is a three-star item that tested achievement in CCEs 4 *Interpreting the meaning of words*, 10 *Using vocabulary appropriate to a context* and 26 *Explaining to others*.

The introduction to this unit familiarised students with the concept of a Tom Swiftly. Two examples were given and analysed. These acted as models to assist students when answering the item. This item required students to analyse two given Tom Swiftlys.

An A-grade response required, for each Tom Swiftly, provision of an appropriate meaning for the adverb, an explanation of a suitable context for speaking in the manner of the adverb and a suitable link between the stem of the adverb and the spoken words.

The meaning given for the adverb had to make sense according to the particular Tom Swiftly and the context needed to address the reason for the words to be spoken that way, e.g. as a (blunt) demand for the sharpener or viewing one's appearance in the mirror (reflectively).

Students should make use of any models given in the stimulus of an item and use these to provide a structure for their responses.

Analyse the two Tom Swiftlys that follow. Use the examples above as a guide.
'I need your pencil sharpener!' Tom said bluntly.
MEANING OF ADVERB AND WHY IT IS SUITABLE —
'Bluntly' can mean very direct and serious. In the context of asking for something
that is needed desperately, that is how Tom could say those words.
LINK TO THE SPOKEN WORDS —
Blunt is a description a pencil is given when it needs to be sharpened.
'I don't like the way I look in that mirror, ' Tom said reflectively.
MEANING OF ADVERB AND WHY IT IS SUITABLE —
'Reflect' can mean to critique with the benefit of hindsight. Since Tom is looking into a
mirror and he would be critiquing his own image, that is how Tom could say those words.
LINK TO THE SPOKEN WORDS —
LINK TO THE SPOKEN WORDS —

1 of 5 No response has been made unintelligible requirements for any other Response is at any time. or does not satisfy the Using vocabulary appropriate to a context z 0 grade. **Marking Unit 3** 'Reflect' can mean to critique with the benefit of hindsight. Since Tom is looking into a mirror and he would be critiquing his own image, that is how Tom could say those words. The response, across the two Tom Swiftlys, an appropriate meaning for the adverb an explanation of a suitable context for a suitable link between the stem of the speaking in the manner of the adverb adverb and the spoken words. Ω 'I don't like the way I look in that mirror,' Tom said reflectively. provides TWO of MEANING OF ADVERB AND WHY IT IS SUITABLE – A reflection is something a mirror produces. The response, for one Tom Swiftly, provides an appropriate meaning for the adverb an appropriate meaning for the adverb No incorrect or contradictory statements an explanation of a suitable context for an explanation of a suitable context for LINK TO THE SPOKEN WORDS a suitable link between the stem of the a suitable link between the stem of the speaking in the manner of the adverb speaking in the manner of the adverb 10 The response, for each Tom Swiftly provides TWO of adverb and the spoken words. adverb and the spoken words. OR C **Marking Scheme** Interpreting the meaning of words ... are made. The response, for one Tom Swiftly, provides an appropriate meaning for the adverb an explanation of a suitable context for No incorrect or contradictory statements an appropriate meaning for the adverb a suitable link between the stem of the an explanation of a suitable context for 'Bluntly' can mean very direct and serious. In the context of asking for something that is speaking in the manner of the adverb The response, for the other Tom Swiftly, speaking in the manner of the adverb a suitable link between the stem of the **Explaining to others** adverb and the spoken words. adverb and the spoken words. ш Blunt is a description a pencil is given when it needs to be sharpened. and EITHER are made. needed desperately, that is how Tom could say those words provides MEANING OF ADVERB AND WHY IT IS SUITABLE -AND OR TEM 4 26 4 'I need your pencil sharpener!' Tom said bluntly. 1. An adverb cannot be explained in terms an appropriate meaning for the adverb an explanation of a suitable context for No incorrect or contradictory statements **PERFORMANCE DOMAIN**  a suitable link between the stem of the speaking in the manner of the adverb The response, for each Tom Swiftly, LINK TO THE SPOKEN WORDS adverb and the spoken words. **UNIT THREE** 4 Model Response: of itself. are made. provides Note:

#### Item 5

#### Commentary



Item 5 is a three-star item that tested achievement in CCEs 31 *Interrelating* ... *themes*, 46 *Creating/composing* and 10 *Using vocabulary appropriate to a context*.

This item comprised two parts. In the first part, for each of the given sentences students were required to select the most suitable adverb (from the list in the highlighted section) to complete the sentence as a Tom Swiftly.

In the second part, students had to craft appropriate spoken words to form a Tom Swiftly that ends with 'Tom said softly'. The cue for this part instructed students to check that their words did indeed create a Tom Swiftly as described in this unit.

An A-grade response needed, for the first part, to correctly match all five adverbs and then for the second part to create a Tom Swiftly using a single sentence. The spoken words needed to set up a context in which the words would most likely be said in a quiet or gentle voice and a link to the word 'soft'.

To correctly match the adverbs students had to be sure the adverb and the spoken words did form a Tom Swiftly as defined in the introduction. In the second part many of the spoken words provided in the responses contained something soft but did not provide the context for why those words would be said quietly or gently. Some responses did not set up a link with the word 'soft'.

Students should use all available information and attend to any cues carefully. If a model is given use it to help respond appropriately.

#### Model response

I. For each sentence below, select the most suitable adverb (from the highlighted section) to complete the sentence as a Tom Swiftly. Write **one** adverb at the end of each sentence. Do not use any adverb from the highlighted section more than once.

briefly diplomatically encouragingly listlessly meanly presently quickly sharply stridently

'Watch out for	the broken glass, 'Tom said sharply.								
'Your work is a	only average, ' Tom said meanly.								
<i>Walk this way</i>	,' Tom said stridently.								
'I can't remember what groceries I need to buy, ' Tom saidlistlessly.									
'Of course you'll graduate,' Tom said diplomatically.									
<b>II.</b> Craft app Check that your	<ul> <li>I. Craft appropriate spoken words to go before <i>Tom said softly</i>, to form a Tom Swiftly.</li> <li>( ) Could just sink into this cosy bed forever.</li> </ul>								
words do create a Tom Swiftly as described in this unit.									
	' Tom said softly.								

NERRORMANCE DOMAN     10 Using vocabulary appropriate to a context <ul> <li>The respons.</li> <li>The respo</li></ul>	PERFORMANCE DOMAIN 10 Using	relating themes		46 Creating/composing/devis	sing
A     B     C     D       The response, in		g vocabulary approp	riate to a context		
The response, in part 1, provides         The response, in provides         The response, in part 1, provides	Α	В	C	D	Z
In part i, provides       In part i, provides<	The response, The response,		The response,	The response,	Response is
• the fire adverby matched correctly, AD       • four of the adverby matched correctly, AD       • four of the adverby matched correctly, AD       • wore difficulty, AD         AD       for part I, sets up       if and if a difficulty, and if a difficulty if a difficulty if a difficulty, and and if a difficulty, and and and if a difficulty, and	for part I, provides	vides	for part I, provides	for part I, provides	unintelligible
AD       AD <th< td=""><td>the five adverbs matched correctly     four of the ad</td><td>adverbs matched correctly</td><td><ul> <li>four of the adverbs matched correctly.</li> </ul></td><td><ul> <li>two of the adverbs matched correctly.</li> </ul></td><td>or uoes not satisfy the</td></th<>	the five adverbs matched correctly     four of the ad	adverbs matched correctly	<ul> <li>four of the adverbs matched correctly.</li> </ul>	<ul> <li>two of the adverbs matched correctly.</li> </ul>	or uoes not satisfy the
Or part II, sets up       Or part II, sets up       The response, likely be said in a quet or genter voice and soft.       The response, likely be said in a quet or genter voice and soft.       The response, likely be said in a quet or genter voice and soft.       The response, likely be said in a quet or genter voice and soft.       The response, likely be said in a quet or genter voice and soft.       The response, likely be said in a quet or genter voice and soft.       The response, likely be said in a quet or genter voice and soft.       Description and soft. <thd< td=""><td>AND AND</td><td></td><td>OR</td><td>OR</td><td>requirements for any other</td></thd<>	AND AND		OR	OR	requirements for any other
• a tentert in which the words would most likely be said in a quiet or gentle voice likely be said in a quiet or gentle voice in the to the word' soft'.       • a tentert in which the words would most likely be said in a quiet or gentle voice in a quiet or gentle voice officit.       • a tentert in which the words would most define.       • three of the adverbs matched correctly a tent in sea up ONE of a tent in sea up one of a tent in a quiet or gentle voice in the word' soft'.       • The response.       • AND         • AND       • AND       • the response.       • the response.       • the response.       • the response.         • AND       • AND       • the response.       • the response.       • the response.       • the response.         • other word soft       • the response.       • the response.       • the response.       • the response.         • other word soft       • the response.       • the response.       • the response.       • the response.         • other word soft       • the response.       • the response.       • the response.       • the response.         • other word soft       • the response.       • the response.       • the response.       • the response.         • other word soft       • the response.       • the response.       • the response.       • the response.         • other word soft       • the response.       • the re	for part II, sets up	ts up	The response,		grade.
Itely be said in a quiet or gentle voice       Itere of the advects matched correctly       Itere of the advects       Itere of the ad	<ul> <li>a context in which the words would most</li> <li>a context in w</li> </ul>	which the words would most	for part I, provides		
Autonomoust       Autonout       Autonout       Autonout <th< td=""><td>likely be said in a quiet or gentle voice likely be said</td><td>id in a quiet or gentle voice</td><td><ul> <li>three of the adverbs matched correctly</li> </ul></td><td></td><td>0</td></th<>	likely be said in a quiet or gentle voice likely be said	id in a quiet or gentle voice	<ul> <li>three of the adverbs matched correctly</li> </ul>		0
Incomplexentence creates a non-writy and defined.     Incomplexentence creates a non-writy and non-writing and non-writy and non-writing and non-wri		Word Solt.	AND		
OR     OR     In part is sets process     In part is sets process <th< td=""><td>I he single sentence creates a 10m Swittly as   The single sente defined.</td><td>tence creates a lom Swittly as</td><td>97 JUO 1970</td><td>Lhe response, for east H rate on ONE of</td><td>No response has been mad</td></th<>	I he single sentence creates a 10m Swittly as   The single sente defined.	tence creates a lom Swittly as	97 JUO 1970	Lhe response, for east H rate on ONE of	No response has been mad
Model Response, Function       a context in which the words would most likely be said in a quiet or gente voice a link to the word' soft' for part I provides       a context in which the words would most likely be said in a quiet or gente voice a link to the word' soft' a nik to the word' soft'       a context in which the words would most likely be said in a quiet or gente voice a link to the word' soft'       a context in which the word' soft'         Model Response:       AMD       a nik to the word' soft'       a nik to the word' soft'       a nik to the word' soft'         • sharply       for part II sets up to the up       a nik to the word 'soft'.       a reference to something that could be deemed to be 'soft'.       a nik to the word 'soft'         • stridently       a link to the word 'soft'.       a nik to the word 'soft'.       a reference to something that could be deemed to be 'soft'.       a reference to something that could be deemed to be 'soft'.         • stridently       a nik to the word 'soft'.       a nik to the word 'soft'.       a reference to something that could be deemed to be 'soft'.       a reference to something that could be deemed to be 'soft'.         • stridently       a nik to the word 'soft'.         • listlessy       istlessy       istlessy       istlessy       istlessy       istlessy         I.       I.       istlessy       istlessy       istlessy       istlessy		ao	IOF PART IL, SEIS UP OLVE OF	IOL PARTIEL, Sets up ONE OF	at any time.
The response.       The response.       The response.       In the response.         Model Response.       The frequencies       In the response.       In the response.         Model Response.       The five adverbs matched correctly       In the response.       In the response.         Model Response.       The five adverbs matched correctly       In the response.       In the response.       In the response.         Model Response.       AND       In the response.       In the res		UK	<ul> <li>a context in which the words would most likely he said in a quiet or gentle voice</li> </ul>	<ul> <li>a context in which the words would most likely be said in a quiet or gentle voice</li> </ul>	
for part I provides       for part I provides       e a reference to something that could be         Model Response:       • the five adverbs matched correctly       • a reference to something that could be         • analy       adverbs matched correctly       • a reference to something that could be         • sharply       adverbs matched correctly       • a reference to something that could be         • analy       adverbs matched correctly       • a reference to something that could be         • sharply       for part II sets up       • a link to the word 'soft'.         • a link to the word 'soft'.       • a link to the word 'soft'.       • a link to the word 'soft'.         • a listessy       • a link to the word 'soft'.       • a listessy         • diplomatically       • a liste soft'.       • a liste soft'.         • diplomatically       • a liste soft'.       • a liste soft'.         • diplomatically       • a liste soft'.       • a liste soft'.         • diplomatically       • a liste soft'.       • a liste soft'.         • diplomatically       • a liste soft'.       • a liste soft'.         • diplomatically       • a liste soft'.       • a liste soft'.         • diplomatically       • a liste soft'.       • a liste soft'.         • diplomatically       • a list liste soft'.       • a liste soft'.	The response,		• a link to the word 'soft'	• a link to the word 'soft'	
Model Response:     • the five adverbs matched correctly     deemed to be 'soft'.       AVD     AVD     deemed to be 'soft'.       • sharply     for part II sets up     for part II sets up       • meanly     • a link to the word 'soft'.     eemed to be 'soft'.       • stridently     • a link to the word 'soft'.     eemed to be 'soft'.       • istlessly     • a link to the word 'soft'.     effection       • follomatically     • follomatically     .	for part I provi	vides	• a reference to something that could be	• a reference to something that could be	
• sharply     A/D       • meanly     for part II sets up       • meanly     for part II sets up       • stridently     • a link to the word 'soft'.       • listlessly     • a link to the word 'soft'.       • diplomatically     I.       I.     I.       I.     I.       I.     I.	Model Response:	erbs matched correctly	deemed to be 'soft'.	deemed to be 'soft'.	
<ul> <li>sharply</li> <li>inearly</li> <li>inearly</li> <li>stridently</li> <li>a link to the word 'soft'.</li> <li>is the shoth</li> <li>is the shoth</li> <li>diplomatically</li> <li>diplomatically</li> <li>I.</li> <li>could just sink into this cosy bed forever,' Tom said softly.</li> </ul>	AND				
• meanly       for part II sets up         • stridently       • a link to the word 'soft'.         • listlessly       • diplomatically         I.       I.	sharply				
<ul> <li>stridently</li> <li>listlessly</li> <li>diplomatically</li> <li>I.</li> <li>1 could just sink into this cosy bed forever,' Tom said softly.</li> </ul>	meanly	dn s			
<ul> <li>listlessly</li> <li>diplomatically</li> <li>diplomatically</li> <li>liculd just sink into this cosy bed forever, Tom said softly.</li> </ul>	<ul> <li>a link to the v</li> </ul>	word 'soft'.			
<ul> <li>diplomatically</li> <li>1.</li> <li>I could just sink into this cosy bed forever, 'Tom said softly.</li> </ul>	listlessly				
I. I could just sink into this cosy bed forever,' Tom said softly.	<ul> <li>diplomatically</li> </ul>				
I could just sink into this cosy bed forever,' Tom said softly.	ľ				
	I could just sink into this cosy bed forever,' Tom said softly.				
Markina Unit 3				Markina	10 C C 1 m

													Marking Unit 3 3 of 5	
Marking Scheme		once, even if one of the uses involves a correct match.	incorrect spelling is tolerated.	ting the adverb at the end of the sentence (e.g. by guous. This applies to all grades.		as been formed, markers should analyse the response whether it is most likely that Tom would say the words ly) and whether the spoken words link with the stem of it be soft?"	g day,' Tom said softty. nking of relaxing he would most likely say the words t would be soft.	n before serving it up as 'lamb', Tom said softly. ticising the food in a restaurant he would most likely . to tenderise it) then the meat would be soft.	said softly. 1rt room and is disagreeing with a judge he would say hen it is soft.	up a link or a reference to something that could be when making a judgment about a grade.	han one sentence is included, consider the response as a nce has been set up.	, consider only the first when making a judgment about		
UNIT THREE ITEM 5	Notes: Part I:	1. An adverb cannot gain credit if it is used more than	2. As long as the word is unambiguously recognisable,	3. A correct match may be indicated other than by wri connecting lines) as long as what is meant is unambig	Part II:	4. In making judgments about whether a Tom Swiftly I as modelled in the stimulus material, that is, consider in a quiet or gentle voice (echoing the meaning of soft the adverb, 'soft'. Ask: 'If [something in the spoken words] then would Some examples:	<ul> <li>'I love sinking into my mattress at the end of a lon This is a Tom Swiftly. Context: Because Tom is thi gently. Link: If he is sinking into a mattress then it</li> </ul>	<ul> <li>The chef should have used a mallet on this mutto This is a Tom Swiftly. Context: Because Tom is cri speak quietly. Link: If a mallet is used on meat (i.e</li> </ul>	The sentence the judge just gave is lenient,' Tom This is a Tom Swiftly. Context: If Tom is in the cot the words quietly. Link: If the sentence is lenient the	5. The word 'soft' in a response to part II does not set I deemed to be soft. Consider the rest of the response	6. A Tom Swiftly comprises a single sentence. If more the whole to determine whether a context, link or reference	<ol> <li>If multiple attempts are made to create a Tom Swiftly a grade.</li> </ol>		

# Unit Four

The items in this unit are based on water features made up of square-based metal blocks of varying heights arranged on rectangular grids.

The following table shows the percentage of responses awarded the various grades for the items in this unit.

	A	В	C	D	E	N	0
ltem 6	13.9	29.0	15.8			35.7	5.6
ltem 7	21.2	8.3	31.0	23.1		10.1	6.3
	A shad	ed box indicat	tes that the gr	ade was not a	vailable for th	at item.	

#### Item 6

#### Commentary



Item 6 is a two-star item that tested achievement in CCEs 50 *Visualising* and 16 *Calculating with or without calculators*.

This item required students to find the maximum and minimum depths of water in the pool formed in one of the water-feature models and then to state where each of those depths occurs.

The cue directed students to give the depths in centimetres.

An A-grade response needed to provide the maximum depth and where it occurred and the minimum depth and where it occurred.

To obtain the answer it was necessary to visualise water in the pool and recognise that once the pool was as full as it could be the water would flow out over the lowest side block (in the model given, block 7). When this happened the water on top of block 1 would have a depth of 6 (7 - 1) cm and water on top of block 3 would have a depth of 4 (7 - 3) cm. In some responses it was not made clear where the maximum and minimum depths occurred nor were values identified as maximum and minimum.

Students should clearly and unambiguously provide all requirements when responding to items.

#### Model response

Assume that the pool formed in model 2 is as full as it can be, i.e. it is holding the greatest amount of water that it can. Find the maximum and minimum **depths** of the water in the pool and state where each occurs.

Give the	Maximum level of water is 7.	Minimum depth is on block 3.				
centimetres.	Maximum depth is on block 1.	Minimum depth is $7 - 3 = 4$				
	Maximum depth is $7 - 1 = 6$					

No response has been made 1 of 7 requirements unintelligible for any other at any time. Response is or does not satisfy the z 0 grade. Marking Unit 4 depth of 6 which can be inferred to be the maximum. depth of 4 which can be inferred to be the minimum. • that the maximum depth and the minimum depth is determined using height of 7. **Calculating with or without calculators**  maximum depth occurs on block 1 minimum depth occurs on block 3. OR OR OR C The response provides The response provides The response provides The response provides No incorrect information or working is used to obtain these No incorrect information or working is used to obtain this No incorrect information or working is used to obtain this part of the answer. depth of 4 which can be inferred to be the minimum. depth of 4 which can be inferred to be the minimum depth of 6 which can be inferred to be the maximum depth of 6 which can be inferred to be the maximum 16 **Marking Scheme**  maximum depth occurs on block 1. minimum depth occurs on block 3. OR OR р The response provides both The response provides The response provides parts of the answers. part of the answer. Visualising No incorrect information or working is used to obtain the ITEM 6 50 **PERFORMANCE DOMAIN**  maximum depth occurs on block 1 minimum depth occurs on block 3. Þ Maximum depth is on block 1. Minimum depth is on block 3. Maximum level of water is 7. Maximum depth is 7 - 1 = 6Minimum depth is 7-3=4**UNIT FOUR**  maximum depth of 6 minimum depth of 4 The response provides **Model Response:** answers.

#### Item 7

#### Commentary



Item 7 is a three-star item that tested achievement in CCEs 20 *Setting out/ presenting/arranging/displaying*, 43 *Analysing* and 53 *Observing systematically*.

This item required students to design a water feature so that a pool is formed in its middle using blocks numbered 1 to 20, where the numbers indicate the heights of the blocks. There were three requirements: the area of the base of the pool had to be as large as possible; the amount of water able to be held in the pool had to be as great as possible; blocks beside each other had to have height differences more than one, i.e. no consecutively numbered blocks could be beside each other.

The cue suggested that students use pencil on a draft grid before completing their response on the answer grid.

An A-grade response needed blocks numbered 1 to 20 to be used (with no repetition) and those numbered 1 to 6 to be located in the middle squares, 7 to 10 located in the corner squares and 11 to 20 in the side squares. It also required that no consecutive numbers be beside each other. This layout would ensure that the three requirements of the water feature design would be met.

Checking was of paramount importance in this item as some responses that showed correct reasoning unfortunately had consecutive pairs beside each other or repeated numbers in the answer grid.

Students should always consider all given information especially that provided in the introductory stimulus prior to developing their strategies. Model 2 given in the stimulus exemplified how a pool is formed and the connection between the pool blocks and the side blocks.

#### Model response

	8	13	16	19	10
Answer arid.	12	6	2	4	20
, nonor gita.	18	3	5	1	15
	9	17	11	14	7
2 of 7 No response has been made unintelligible requirements for any other Response is at any time. or does not satisfy the z 0 grade. 10 15 20 **Marking Unit 4** ~ The response provides a grid containing 12 The response provides a grid such that six 19 4 No consecutive numbers are beside each No numbers are repeated in the middle squares. 4 <u>\_</u> or more numbers between 1 and 20. occupy the six middle squares. 10 7 2 S No numbers are repeated. other throughout the grid. OR Ω of the numbers 1 to 10 43 Analysing **Model Response:** 33 17 ဖ က 12  $\frac{1}{2}$  $\infty$ ດ The response provides the numbers 1 to 20 Consecutive numbers are beside each other The response provides the numbers 1 to 20 1 to 10 occupy the six middle squares and the largest middle-square number is less than the smallest side-square number. at most two times throughout the grid. in a completed grid such that numbers • 11 to 20 occupy the side squares. square and therefore the response will not be considered a completed numbers provided in the 'answer grid', refer to the 'draft grid' and If a square contains more than one number, consider it as an empty in a completed grid such that Setting out/presenting/arranging/displaying No numbers are repeated. No numbers are repeated. OR The response to be graded is the 'answer grid'. If there are no C the corner squares **Marking Scheme Observing systematically** The response provides the numbers 1 to 20 Consecutive numbers are beside each other The response provides the numbers 1 to 20 1 to 10 occupy the six middle squares and No consecutive numbers are beside each in a completed grid such that numbers in a completed grid such that numbers 1 to 6 occupy the six middle squares at most two times throughout the grid. 11 to 20 occupy the side squares. 11 to 20 occupy the side squares. • 7 to 10 occupy corner squares grade accordingly. No numbers are repeated. other throughout the grid. No numbers are repeated. OR ш the corner squares grid. નં *е*. 20 53 TEM 7 corner cornel side The response provides the numbers 1 to 20 **PERFORMANCE DOMAIN** No consecutive numbers are beside each in a correctly completed grid such that • 1 to 6 occupy the six middle squares • 7 to 10 occupy the corner squares 11 to 20 occupy the side squares. middle side side No numbers are repeated. other throughout the grid. **UNIT FOUR** 4 corner corner side numbers Notes:

# Unit Five

The item in this unit is based on a list of quotations about a particular nonfiction book. The quotations give personal reactions to the book.

The following table shows the percentage of responses awarded the various grades for the item in this unit.

	А	В	C	D	E	N	0		
ltem 8	7.5	31.2	37.1	14.3		3.9	6.0		
A shaded box indicates that the grade was not available for that item.									

# Item 8

# Commentary



Item 8 is a three-star item that tested achievement in CCEs 44 *Synthesising*, 11 *Summarising/condensing written text* and 31 *Interrelating ideas/themes/issues*.

The stimulus for this item was a number of quotations, each of which gave a personal reaction to the same nonfiction book.

This item required students to determine the facts relating to the essential elements of the nonfiction book and to compose an objective overview. Title,

author, topic, content and style of writing were stipulated as the 'essential elements' of the objective overview they were to compose. An objective overview is considered to be one free from personal comments.

A cue suggested using the open space to organise the response and reminded students to write their final overview in the lined area. Other cues instructed students to write in sentences and not to simply quote from the quotations.

An A-grade response needed to create the overview, drawing together evidence from the stimulus, rather than simply quoting verbatim from it. The responses needed to be objective, succinct and coherent and follow a logical sequence. As part of the overview students were required to correctly identify the title, author and topic. They were also required to provide different details about the content and different details about the book's style.

The title and name of the author were mostly identified but the topic and content were sometimes interchanged. The topic, as distinct from content of the book is 'public speaking or presenting', or an equivalent over-arching word or phrase. Many responses identified topic as 'dos and don'ts of public speaking', or 'personal experiences of public speaking'. These are creditable as details of content, but not as the topic of the book.

Students should take on board the suggestion in a cue that recommends organising before writing the final response. This type of cue has been provided because, to respond well, several parts would have to be carefully brought together (synthesised). Attending to cues is always a beneficial exercise — they are there to guide students.

## Model response

Write in	'Confessions of a Public Speaker' by Scott Berkun is about public speaking and offers advice
Do not simply	on making presentations to an audience. It is well-organised and contains practical
quote from the	
quotations.	suggestions based on the author's own experiences, making it humorous and entertaining.

nse y identifies s <i>Confessio</i> r as Scott B as public sp fferent deta
and/or styl
del Resp
'Confession on making suggestions
In his book, about speak public speal often humo
'Confession Scott share successes al

5 of 5 Marking Unit 3 **Marking Scheme** Working in the area provided for organising a response cannot be considered part of an 'overview', If there is no response in the lined area, the area provided for organising a response should be used 3. The book's content includes (but is not limited to these words): real-life experiences, practical tips, successes, mistakes, bad experiences, suggestions, behind-the-scenes information, practical advice but it may provide evidence that can be used to contribute to the award of a C-grade or D-grade. 1. An overview presents the essential elements written in sentences (not dot points). An overview is limited to these words): comprehensive, cohesive, well-organised, humorous, entertaining, fresh, • topic — the topic is the 'superset': public speaking or equivalent such as presenting, guide to 6. A response that refers to the book as being fictional or as a novel is not eligible for an A-grade. 5. A detail can be attributed to EITHER content OR style but not both. That is, there is to be no Style is the way in which an author presents the content. The book's style includes (but is not • the author (Scott Berkun) — 'Scott' on its own or 'Berkun' on its own is not sufficient to not simply a collection of quotes taken from the stimulus material. • the title of the book (Confessions of a Public Speaker) content — the 'subsets' of the topic — See Note 3 double-dipping. Examples: practical, informative. ITEM 8 honest, practical, witty, wise ... correctly identify the author on speaking to an audience ... 2. The essential elements are: to determine the grade. giving presentations style — See Note 4. **UNIT FIVE** Notes: ч. 4

# **Unit Six**

The items in this unit are based on two lead-light windows of different sizes.

The following table shows the percentage of responses awarded the various grades for the items in this unit.

	Α	В	C	D	E	N	0			
ltem 9	7.8	9.6	10.7	9.1	12.2	45.4	5.2			
ltem 10	Item 10         11.6         10.3         5.3         32.3         12.5         16.5         11.4									
A shaded box indicates that the grade was not available for that item.										

# Item 9

# Commentary



Item 9 is a four-star item that tested achievement in CCEs 16 *Calculating with or without calculators* and 32 *Reaching a conclusion which is necessarily true provided a given set of assumptions is true*.

This item comprised two parts and required students to find the total length of lead needed to construct a circular lead-light window which contained a square in the centre of the window. In determining this total length, several intermediate values needed to be calculated and two of these intermediate values (i.e. the area of the square and its side-length) needed to be included in the first part of the response.

The cues directed students to show all steps and give each of the answers to three decimal places.

An A-grade response needed to provide evidence that all of the seven key steps were used in a valid way to provide the final results for the area of the square, the side-length of the square and the total length of lead for the window.

Students should not measure a diagram unless it has been explicitly identified as a scale diagram. The diagram provided in the stimulus was clearly non-circular and was described as a 'very rough sketch'. This was deliberate so that it would not be taken to be a scale diagram. If a diagram is not to scale there must be another method of determining the solution.

I. Find the area (in m<sup>2</sup>) that the square pane of glass will have and then calculate its side-length (in m) if the actual window will have a diameter of 2.20 m.

Show all steps.	Area of circle $\pi r^2 = \pi \times 1.1^2$	Area of square = $s^2$						
Give answers to three decimal	= 3.8013 m <sup>2</sup>	$0.760 = s^2$						
places.		s = √0.760						
Area	ofsquare = <u>3.8013</u> 5	= 0.872 m						
	= 0.7602							
	$= 0.760 \mathrm{m}^2$							
II. For this the corne	window, lead will only be used for the ers of the square to the rim of the circ	e sides of the square and the four lines from le.						
Determin	ne the total length of lead to be used t	for this window.						
Show all steps.	Perimeter of square = $5 \times 4$							
Give final length in metres to three decimal places.	Give final length in metres to three decimal							
For diagonal	$c^{2} = a^{2} + b^{2}$							
	$c^2 = 0.872^2 + 0.872^2$							
	= 1.521							
Diagonal of so	quare = $\sqrt{1.521}$ Length	of four lines to rim = $2 \times (2.2 - 1.233)$						
	= 1.233	= 1.934						
	Total lead required = perimeter of	square + length of lines to rim						
	= 3.488 + 1.9	34						
	= 5.422 m.							

3 of 7 No response has been made unintelligible requirements for any other Response is at any time. or does not satisfy the 0 z grade. Reaching a conclusion which is necessarily true provided a given set of assumptions is true **Marking Unit 4** theorem using stated values for The response, allowing for at most one observable mechanical error the correct use of Pythagoras' a triangle associated with the working as applicable, provides and consequentially correct The response provides OR [T] area of square side-length. results for square. one observable mechanical error and consequentially correct total length consequentially correct total length The response, based on a stated sidelength of the square and allowing for consequentially correct working, as (less than 2.2 m) and allowing for at length of the diagonal of the square at most one observable mechanical The response, allowing for at most consequentially correct length of error and consequentially correct error and consequentially correct most one observable mechanical consequentially correct side of working as applicable, provides The response, based on a stated working as applicable, provides applicable, provides results for perimeter of square. OR OR Ω relevant diagonal area of square side-length of lead. square of lead. **Calculating with or without calculators Marking Scheme** The response shows valid steps The response provides correct length of relevant diagonal working is used to obtain the No incorrect information or length of lines to rim perimeter of square. perimeter of square 1. An 'observable mechanical error' means that sufficient intermediate steps are shown so that total length of lead. an inference does not need to be made to show how an error occurred. Such errors include: OR A triangle associated with the square is a right isosceles triangle that is part of the square C area of square area of square area of circle side-length side-length results for answers. <u>o</u> most one observable mechanical correct working as applicable, The response, allowing for at section length of diagonal error and consequentially provides final results for length of lines to rim perimeter of square total length of lead total length of lead. shows valid steps for ш - an incorrect result of a correctly-stated operation area of square area of square area of circle 16 TEM 9 32 side-length side-length AND **PERFORMANCE DOMAIN**  a recognisable transcription error provides final results, given correctly to three decimal places, The response shows valid steps inappropriate rounding. working is used to obtain the total length of lead (in m). No incorrect information or section length of diagonal length of all lines to rim area of square (in m<sup>2</sup>) - a conversion error perimeter of square drawn in the circle. - a misuse of units total length of lead side-length (in m) UNIT SIX 4 area of square area of circle side-length answers. Notes: AND for for નં

		Marking Unit 4 4 of 7
	of lines to rim	
Marking Scheme	11. Perimeter of square = $s \times 4$ = $0.872 \times 4$ = $0.872 \times 4$ = $3.488$ m For diagonal: $c^2 = a^2 + b^2$ $c^2 = 0.872^2 + 0.872^2$ = $1.521$ Diagonal of square = $\sqrt{1.521}$ = $1.333$ Length of four lines to rim = $2 \times (2.2 - 1.233)$ = $1.334$ Total lead required = perimeter of square + length = $3.488 + 1.934$ = $5.422$ m.	
ITEM 9	= 3.8013 m <sup>2</sup> .	
UNIT SIX	MODEL KESPOIRSE: I. Area of circle $\pi r^2 = \pi \times 1.1^2$ . Area of square $= \frac{3.8013}{5}$ $= 0.760 \text{ m}^2$ Area of square $= s^2$ $0.760 = s^2$ $s = \sqrt{0.760}$ = 0.872  m	

# Item 10

## Commentary



Item 10 is a four-star item that tested achievement in CCEs 57 *Manipulating/ operating/using equipment*, 19 *Substituting into formulae*, 37 *Applying a progression of steps to achieve the required answer* and 43 *Analysing*.

This item comprised two parts. In the first part students were required to carefully measure in millimetres the length of the chord and the vertical height of the top segment in the scale diagram. They were to use those measurements in the given formula to find the area of the segment. In the second part they were required to

find the radius for the two circles, each with the same area as the segment. These circles had to be drawn using a compass and positioned in the space between the top and bottom segments.

The cues directed students to show all steps in the first part and give their answer to the nearest square millimetre. In the second part the cue instructed students to show the working used to calculate the radius.

An A-grade response needed to correctly substitute the required values of the height and the chord into the formula and calculate the correct segment area to the nearest square millimetre. The response had to recognise that segment area equals circle area and to accurately construct the two circles within the designated area using the correctly calculated radius. The circles could not overlap.

Measuring accurately with a ruler and using a compass correctly were two skills required in this item. Careless substitution into the formula caused some incorrect calculations.

Students should remember to check the reasonableness of their answers, e.g. in this item the measured length of the chord was sometimes given not as 95 mm but as 950 mm, which is clearly too large. When an item comprises two parts it is expected that values determined in the first part are to be used towards the solution to the second part. Using the already obtained value/s will save time.

## Model response

I. Carefu segme	Illy measure (in mm), the length of the chord and the vertical height of the top nt on the diagram. A formula that can be used to find the area of a segment is:
	$A = \frac{2}{3}hc + \frac{h^3}{2c}$ where $h$ = vertical height of the segment c = length of the chord
Use th	is formula to find the area of the top segment.
Show all steps	In the diagram $h = 28$ mm and $c = 94$ mm.
Give answer to the nearest square millimetre.	A = $\frac{2}{3}hc + \frac{h}{2c}$ = $\frac{2}{3} \times 28 \times 94 + \frac{28^3}{2 \times 94}$
	= 1754.67 + 116.77
	= 1871.44 mm
	= 1871 mm



5 of 7 No response has been made unintelligible requirements for any other Response is at any time. or does not satisfy the z 0 grade. Analysing Marking Unit 4 Substituting in formulae reasonable measurement of substitution of h and c into circle drawn sufficiently well The response provides one area using a stated radius. and within the designated The response provides <del>4</del> OR Ц formula. h or c19 The response provides two circles drawn sufficiently well and within segment area equals circle area working as applicable, a radius the designated area using a stated Applying a progression of steps to achieve the required answer reasonable measurement of calculation of segment area. substitution of h and c into recognition that a stated The circles do not overlap. allowing for at most one consequentially correct consequentially correct observable error and The response provides The response provides OR OR Ω for the circles. formula h or cradius. Manipulating/operating/using equipment The response, allowing for at most **Marking Scheme** consequentially correct working correct substitution of h and c recognition that segment area recognition that segment area well within the designated area the required measurement of One circle is drawn sufficiently correct radius for the circles. The response shows valid steps reasonable measurement of calculation of segment area correct segment area to the substitution of h and c into nearest square millimetre one observable error with a radius for the circles. using the stated radius. as applicable, provides OR equals circle area equals circle area into the formula C and provides h and c formula h and c substitution of h and c into formula reasonable measurement of h and c The two circles are drawn sufficiently No incorrect information or working has been used. correct substitution of h and c into correct segment area to the nearest well and within the designated area allowing for at most one observable The response shows valid steps and The response shows valid steps and error with consequentially correct constructed within the designated working as applicable, provides recognition that segment area recognition that segment area the required measurement of correct radius for the circles. calculation of segment area area using the stated radius. The circles do not overlap. Two circles are accurately The circles do not overlap. a radius for the circles. using the stated radius. OR ш square millimetre equals circle area equals circle area **TEM 10** the formula 57 37 h and c provides **PERFORMANCE DOMAIN** constructed within the designated • correct substitution of h and c recognition that segment area the required measurement of correct radius for the circles. The response shows valid steps The two circles are accurately correct segment area to the nearest square millimetre area using the stated radius. No incorrect information or The circles do not overlap. working has been used. equals circle area UNIT SIX 4 into the formula and provides h and c

																			6 of 7
																			Marking Unit 4
									(r)	24.7	24.7	24.8	24.8	24.9	25.0	25.0	25.1	25.1	_
				vas obtait					29	1911	1920	1929	1938	1947	1956	1965	1974	1983	
				ct result v					(r)	24.4	24.5	24.5	24.6	24.7	24.7	24.8	24.8	24.9	
	.5 cm.			ın incorre	cm				28.5	1874	1883	1891	1900	1909	1918	1927	1936	1945	
	ent, e.g. 9			out how a	ıt, e.g. 2.5				(r)	24.2	24.2	24.3	24.4	24.4	24.5	24.5	24.6	24.6	
	ie equival			: made ab	equivaler				28	1837	1845	1854	1863	1871	1880	1889	1898	1906	
eme	isive or th	ate).		aeed to be	ive or the				5 <i>(r)</i>	0 23.9	8 24.0	7 24.0	5 24.1	4 24.2	3 24.2	1 24.3	0 24.3	8 24.4	
j Sche	mm inclu	the templ		does not 1	ım inclusi				27.5	7 180	7 180	8 181	9 182	9 183.	0 184	0 185	1 186	1 186	
arkinç	m and 95	k area of		nference	and 96 m	ius.		<i>d (r)</i>	7 (r)	53 23.	71 23.	30 23.	38 23.	97 23.	15 24.	14 24.	22 24.	31 24.	
Ë	een 93 m	in the pin	ents.	) that an i	en 92 mm	tated rad		h an	·) 27	.4 176	.5 177	.6 178	.6 178	.7 179	.7 18(	.8 18]	.8 182	.9 183	
	l c is betw	is is withi	the segm	shown sc	: is betwee	m of the s			5.5 (h	26 23	35 23	43 23	51 23	60 23	68 23	76 23	85 23	93 23	
	8 mm and	sponse, th	between	steps are	mm and c	ithin 3 m			r) 20	3.2 17	3.3 17	3.3 17	3.4 17	3.4 17	3.5 17	3.5 17	3.6 17	3.6 17	
0	nm and 2	-grade ree	e window	ermediate tion	n and 29	ostly lie w			26 (	690 2	698 2	706 2:	715 2:	723 2:	731 2	739 2:	747 2:	756 2:	
N Z	ween 26 r	le to: g compass (for an A	e inside th	ficient int fed opera	een 25 mi	rcle to m			(r)	22.9 1	23.0 1	23.1 1	23.1 1	23.2 1	23.2 1	23.3 1	23.3 1	23.4 1	
Ë	of <i>h</i> is bet	res a circl a drawing 1t radius ed radius	hite space	s that sufi on error rectly sta mula.	'h is betw	quires a ci			25.5	1654	1662	1670	1678	1686	1694	1702	1710	1718	
	urement o	cion requi wn using a constar of the state	a is the w	or' mean e: or anscriptio anscriptio lt to a cor unding in the for	rement of	y well' red			(r)	22.7	22.8	22.8	22.9	22.9	23.0	23.0	23.1	23.1	
XI	ired meas	construct to be dra plete with in 1 mm o	jnated are	rvable err ors includ e of units ersion err nisable tr rrect resu priate rou swapped	ole measu	ufficiently	aid:		25	1618	1626	1634	1642	1650	1658	1666	1673	1681	
AIT S	es: The requ	Accurate – appear – be comj – lie withi	The desig	An 'obse' Such erry – a misus – a conve – a recogi – an incol – inappro	Reasonat	Drawn s	Marking		I	92	92.5	93	93.5	94	94.5	95	95.5	96	
Ĵ	Not 1.		Э.	4	ò.	6.	7.							c					



# Unit Seven

The items in this unit are based on advertisements used in anti-smoking campaigns.

The following table shows the percentage of responses awarded the various grades for the items in this unit.

	A	В	C	D	E	N	0			
ltem 11	5.3	13.2	69	9.9		1.8	0.7			
ltem 12	1.8	1.8         8.4         26.5         21.6         23.9         16.1         1.8								
A shaded box indicates that the grade was not available for that item.										

# Item 11

## Commentary



Item 11 is a three-star item that tested achievement in CCEs 5 *Interpreting the meaning of ... illustrations*, 43 *Analysing* and 26 *Explaining to others*.

This item required students to study the given advertisement and clearly explain the message being communicated, the techniques used to get the message across and the emotions/feelings being targeted.

An A-grade response needed to provide the full message, describe and explain how the digitally altered arm was used to support the message and indicate how

the text of the illustration supported the message. Responses also needed to identify two emotions/feelings targeted by the advertisement and explain one of them. No inconsistencies or contradictions could occur across the response.

Some responses only partly attended to the task, e.g. described the digitally altered arm and the text but either did not explain how these features supported the message or identified only one emotion. To gain the highest grade, all requirements must be met correctly. Some responses incorrectly described an emotion/ feeling felt by the child rather than the viewer of the advertisement.

Students should remember to read the task carefully and to analyse visual and textual elements rather than simply provide a list of what can be seen.

The	advertisement on the opposite page is trying to convince certain smokers to stop smoking.
Stuc	ly this advertisement and clearly explain:
(a)	what message is being communicated
(b)	the techniques used to get the message across
(c)	the emotions/feelings being targeted.
(a)	The message is about how adults who smoke at home damage the health of children
	due to second-hand smoke. The Roy Castle Lung Cancer Foundation wants adults to
	stop smoking at home.
(b)	Photo-shopping an adult's arm holding a cigarette onto a boy's body implies he is
	forced to breathe in the second-hand smoke from a parent's cigarette and is
	equivalent to him smoking. The shocking facts about the harm second-hand smoke
	causes in the UK, with $17000$ UK children being hospitalised in a year, supports
	the image.
(c)	The image of the sad young child aims to evoke the feelings of guilt or remorse and
	sadness in parents who smoke near their children.

PERFORMANCE DOMAIN     5     Interp       PERFORMANCE DOMAIN     26     Explai       A     26     Explai       A     A     A       Interport     A     A       A     A     A       Clearly provides the full message     • provides the n describes and describes and evolution how the diorially.     • describes and and	reting the meaning			
e response te response clearly provides the full message describes and evolatins how the dioitally.	ning to others	of illustrations	43 Analysing	
te response The response clearly provides the full message the scribes and evolatins how the dioitally.	B	С	D	Ν
	nessage	The response • includes a message that is based on a reasonable reading of the advertisement	The response • includes a message that is based on a reasonable reading of the advertisement	Response is unintelligible or does not
altered arm is used to support the altered arm is message	exprans now ure urguary- used to support the	and indicates how this message is supported by the use of one of the following	and indicates how this message is supported by the use of one of the following	satisfy the requirements for any other
indicates how the text supports the and indicates ho message.	w this message is e use of one of the following	<ul><li>a visual element</li><li>the text</li></ul>	<ul><li>a visual element</li><li>the text</li></ul>	grade.
<ul> <li>o emotions/feelings targeted by the</li> <li>the text vertisement are identified, <u>one</u> of which</li> <li>the logo.</li> </ul>		<ul> <li>the logo.</li> <li>One emotion/feeling targeted by the</li> </ul>	• the logo.	0
one emotion/fee advertisement is advertisement is No inconsistenci	shing targeted by the sidentified and explained. tes/contradictions occur	advertisement is identified.	0R	No response has been mad
across the respo	nse.	The response	The response identifies	
tes: All parts of the response can work together. Therefore, marl consider the whole response and not base grading on particul the response.	kers need to lar sections of	<ul> <li>clearly provides the full message</li> <li>describes and explains how the digitally- altered arm is used to support the message</li> <li>indicates how the text supports the message.</li> </ul>	<ul> <li>a message that is based on a reasonable reading of the advertisement</li> <li>one emotion/feeling targeted by the advertisement.</li> </ul>	
A 'full message' must refer to a parent (adult), child (childre and harm	en), proximity	Model Response:		
A response that satisfies the requirements of a 'full message' the requirements of both 'the message' and 'a message that reasonable reading of the advertisement'. Similarly, a responsatisfies the requirements of 'the message' also meets the rec 'a message that is based on a reasonable reading of the adve	' also meets is based on a nse that quirements of rtisement'.	<ul> <li>(a) The message is about how adults who smok.</li> <li>The Roy Castle Lung Cancer Foundation want</li> <li>(b) Photo-shopping an adult's arm holding a ci second-hand smoke from a parent's cigarette a second-hand smoke causes in the UK, with 170</li> </ul>	at home damage the health of children due to s adults to stop smoking at home. arette onto a boy's body implies he is forced to d is equivalent to him smoking. The shocking fi 0 UK children being hospitalised in a year, su	second-hand smo o breathe in the acts about the ha pports the image.
An emotion/feeling must be from the perspective of the reade be consistent with/reflect how the target audience is meant t	er/viewer and o react to it.	(c) The image of the sad young child aims to ev smoke near their children.	oke the feelings of guilt or remorse and sadness	s in parents who

# Item 12

## Commentary



Item 12 is a four-star item that tested achievement in CCEs 48 *Justifying*, 27 *Expounding a viewpoint*, 4 *Interpreting the meaning of words* and 31 *Interrelating*.

This item required students to give three significant reasons why a roadside billboard would be an effective medium for the given advertisement.

The cue instructed students to explain their reasons clearly.

An A-grade response needed to provide three different reasons based on features specific to a billboard displaying the advertisement. It also needed to make

detailed statements that supported the use of a billboard as an effective medium for this advertisement. No unreasonable assumptions could be used.

Some responses only provided reasons for a roadside billboard being an effective advertising medium and did not link them with the specific anti-smoking advertisement that was provided. The stem specified 'this' advertisement.

Students should remember to read the stem and any cues carefully so that all aspects of the question are addressed.

The specific market for the advertisement below is long-term smokers. It has been proposed that roadside billboards be used as its medium.

Give three significant reasons why a roadside billboard would be an effective medium for this advertisement.

#### Advertisement: market — long-term smokers



THE + LUNG ASSOCIATION \*

	This anti-smoking message would be an effective medium on a billboard as
Explain your	
reasons clearly.	
-	long-term smokers are probably also drivers so may have a regular

pattern of smoking while driving to work and means they would see this billboard regularly.

- The message is effective because of its double meaning presented in a clever way. The
- 'keep smoking' really means 'stop smoking' or you will develop lung cancer making this
- message the opposite of what you would expect so the motorist thinks about their
- smoking habit as they continue to drive. As a billboard is in a public place for all to see, it
- is not easy for smokers driving past to avoid reading the unpleasant message about
- smoking this particular billboard presents. This way the message would more likely stick
- in the mind of the long-term smoker.

		z	Response is unintelligible or does not satisfy the requirements for any other grade. No response has been made at any time.	ıt while driving rd.	nit 1 3 of 3
	xpounding a viewpoint nterrelating	ш	The response gives TWO different reasons. The TWO reasons • are based on features specific to a roadside billboard displaying an advertisement • consist of statements that support a billboard being an effective medium for an advertisement.	that any reference to an advertisemer t has been seen on a roadside billboar	Marking U
	27 E 31 h	D	The response gives ONE reason. This reason  • is based on features specific to a roadside billboard displaying this advertisement  • consists of detailed statements that support a billboard being an effective medium for this advertisement. OR OR OR OR OR OR OR OR OR OR	Note: 1. Unless stated otherwise, assume (as driver or passenger) means i	
Marking Scheme	he meaning of words	C	The response gives TWO different reasons. ONE of the reasons • is based on features specific to a roadside billboard displaying this advertisement that support a billboard being an effective medium for this advertisement. The other reason • is based on features specific to a roadside billboard displaying an advertisement • consists of statements that support a billboard being an effective medium for an advertisement.	ong-term smokers are probably and means they would see this rresented in a clever way. The making this message the g habit as they continue to g driving past to avoid reading is way the message would more	
TEM 12	AIN 48 Justifying 4 Interpreting	В	The response gives THREE different reasons. TWO of the reasons • are based on features specific to a roadside billboard displaying this advertisement that support a billboard being an effective medium for this advertisement. The other reason • is based on features specific to a roadside billboard displaying an advertisement • consists of statements that support a billboard being an advertisement. • Support a billboard being an advertisement. • Support a billboard being an advertisement. • Support a billboard being an effective medium for an advertisement. No unreasonable assumptions are used.	in effective medium on a billboard as littern of smoking while driving to work fective because of its double meaning r oking' or you will develop lung cancer the motorist thinks about their smokin e for all to see, it is not easy for smoke g this particular billboard presents. Th m smoker.	
UNIT SEVEN	PERFORMANCE DOM/	Α	The response gives THREE different reasons. The THREE reasons • are based on features specific to a roadside billboard displaying this advertisement • consist of detailed statements that support a billboard being an effective medium for this advertisement. No unreasonable assumptions are used.	Model Response: This anti-smoking message would be a also drivers so may have a regular pat billboard regularly. The message is ef veep smoking' really means 'stop sm opposite of what you would expect so drive. As a billboard is in a public plat the unplessant message about smokin likely stick in the mind of the long-ter	

# Unit Eight

The items in this unit are based on setting up a sprinkler system according to a given plan and using a table of information to choose pipes.

The following table shows the percentage of responses awarded the various grades for the items in this unit.

	А	В	C	D	E	N	0
ltem 13	4.7	6.7	11.2	14.2		46.7	16.4
ltem 14	9.7	11.6	8.2	25.2	2.2	18.9	24.2
	A shad	ed box indicat	tes that the gr	ade was not a	vailable for th	at item.	

# Item 13

## Commentary



Item 13 is a three-star item that tested achievement in CCEs 37 *Applying a progression of steps to achieve the required answer* and 44 *Synthesising*.

This item presented students with a scale plan showing the layout for a sprinkler system using six sprinklers. The output of each sprinkler was given as 3.6 gallons per minute and the distance between the sprinklers as 30 feet. From the distance information it could be determined that the grid squares were 10 feet by 10 feet. It was explained that a gallon of water would be enough to cover a 1 foot by 1 foot

area to a depth of 0.134 feet (i.e. 1 gallon of water for 0.134 cubic feet). Students were required to calculate how long the water supply would need to be left on so that the shaded area was watered to a depth of 0.080 feet.

The cue directed students to show all steps.

An A-grade response needed to show a method that used all necessary data pieces to determine the number of gallons required to cover the shaded area and then the time it would take for the six sprinklers to deliver this amount of water.

Students should remember to break a complex problem into the smaller parts that build on each other to provide the final answer. This item required that all six pieces of information were used correctly and synthesised into an answer. In some responses one or two of the data-pieces were not considered, which resulted in incorrect answers. Problems in which several parts need to be combined to give the final answer are more easily handled correctly if consistent communication is maintained, e.g. using full and correct units when working with values. The best responses were careful to specify the units, gallons per minute, cubic feet per second, etc. throughout and annotate each line of calculation. This practice also allows for easier checking to ensure the correct progression of steps has been fully completed.

Determine how long the water supply will need to be left on so that the water from the six sprinklers in the system shown will spread evenly across the darker shaded area to an average depth of 0.080 feet.

Show all steps.	Area of lawn = 3900 square feet.
	Volume of water to be used = $3900 \times 0.08 = 312$ cubic feet.
	One gallon = 0.134 cubic feet.
	Gallons required = 312 ÷ 0.134 = 2328.358 gal.
	Taps supply = 6 × 3.6 = 21.6 gpm.
	Time for tap to be turned on = $2328.358 \div 21.6 \approx 107.8$ min.

NIT EIGHT ITEN	l 13 Marki	ıg Scheme		
RFORMANCE DOMAIN	37 Applying a progression o	steps to achieve the required a	nswer 44 Synthesis	ng
Α	В	C	D	N
sponse provides ethod that correctly uses all the pieces ect time given in appropriate units oning for the progression of steps. orrect information or working is used in the answer.	The response, allowing for at most one observable mechanical error and consequentially correct working as applicable, provides • a method that correctly uses FIVE data pieces • a time.	The response shows <ul> <li>FOUR of the data pieces used</li> <li>meaningfully</li> <li>indications of what is being calculated by</li> </ul> the credited data pieces.	The response shows THREE of the data pieces used meaningfully indications of what is being calculated by the credited data pieces.	Response is unintelligible or does not satisfy the requirements for any other grade.
	Model R	sponses:		0
he data picces are: area of 1 square = 100 sq ft number of squares = 39 sprinkler flow rate = 3.6 gpm	<ol> <li>Area ( Volun One Galloo Taps s Time:</li> </ol>	(lawn = 3900 square feet. e of water to be used = $3900 \times 0.08 = 312$ cubic f llon = $0.134$ cubic feet. s required = $312 + 0.134 = 2328.358$ gal. pply = $6 \times 3.6 = 21.6$ gpm. or tap to be turned on = $2328.358 \pm 21.6 \approx 107.8$	et. Jin.	No response has been made at any time.
number of sprinklers = 6 height on 1 sq ft for 1 gallon = 0.134 ft height required on shaded area = 0.08 f n observable mechanical error is a trani- sult to a correctly stated operation. to a scorrain whether one of the data pieco neck for evidence towards the solution. ime = $\frac{39 \times 100}{6 \times 3.6} \times \frac{0.080}{0.134}$	<ol> <li>1 galk</li> <li>Cone si Cone si Each</li> <li>Each</li> <li>Areat</li> <li>Areat</li> <li>Areat</li> <li>Areat</li> <li>Six sp</li> <li>So the</li> <li>Six sp</li> <li>Six sp</li> <li>Six sp</li> <li>So the</li> </ol>	n = 0.134 ft × 1 ft × 1 ft = 0.134 ft <sup>3</sup> = 0.4824 i rinkler's output = 3.6 gpm × 0.134 ft <sup>3</sup> = 0.4824 i quare for needs 0.08 ft. rinkler will take 0.08 + 0.4824 = 0.1658 minutes obe watered = 39 × 100 ft <sup>2</sup> = 3900 ft <sup>2</sup> . aken by one sprinkler would be 3900 ft <sup>2</sup> × 0.165 inklers = 646.62 m + 6 = 107.77 min ≈ 1 hour 48 mber of darker shaded squares = (2 × 8) + (1 × quare is 10 feet by 10 feet = 100 sq ft. So darker or each sprinkler must water 3900 + 6 = 650 sq 10n waters one sq ft to a depth of 0.134 ft but o 0.1080 + 0.134 ≈ 0.507 gallons are needed to wat a sprinkler delivers 3.6 gallons are needed to wat in sprinkler delivers 3.6 gallons are needed to wat in taken to water 650 sq ft = 650 + 6.03 ≈ 107.	<sup>3</sup> per min. 10 water one square foot. 10 water one square foot. 11 min per ft <sup>2</sup> = 646.62 min. 12 min to water the shaded area. 13 + ( $1 \times 6$ ) + ( $2 \times 5$ ) = 16 + 7 + 6 + 10 = 39 squared 14 + ( $1 \times 6$ ) + ( $2 \times 5$ ) = 16 + 7 + 6 + 10 = 39 squared 19 + ( $1 \times 6$ ) + ( $2 \times 5$ ) = 16 + 7 + 6 + 10 = 39 squared 19 0.080 ft is required. 19 0.080 ft is required. 19 0.080 ft is required. 19 0.080 ft is satisfactorily. 10 each sq ft satisfactorily. 10 each sq ft satisfactorily. 10 minutes or 107 min 48 sec.	्र म
			Marking Un	:2 3 of 5

E

# Item 14

# Commentary



Item 14 is a four-star item that tested achievement in CCEs 35 *Extrapolating*, 17 *Estimating numerical magnitude*, 22 *Structuring a mathematical argument* and 2 *Finding material in an indexed collection*.

This item comprised two parts. In the first part students were required to complete the table with the pipe size that was suitable for each of the given water-flow rates and in the second part they had to decide whether the 2- or the  $2^{1/2}$ -inch pipe is the more suitable pipe size for the water-flow rate of 38 gpm.

The cue instructed students to give details pertinent to their decision.

An A-grade response needed to provide the list of the five correct pipe sizes based on the water-flow rate data given in the table. In the second part, evidence of correctly extrapolating the values in the 2- and 2½-inch pipe size columns had to be provided. The response needed to provide a decision as to which pipe size to use based upon the 5 fps rule (for safety and efficiency) described in the stimulus material. This decision needed to be explicitly stated and correctly explained.

Students should interrogate a table fully before attempting to use data from it. In this particular table in the water-flow rate column the increments changed from 1 to 2 gpm after the 12 gpm row. Some responses showed that this change was not recognised and thus caused the extrapolations to be incorrect.

I. The required water-flow rates in sections of a sprinkler system are given below.

Use Table 1 to find the minimum pipe size needed for each of the required water-flow rates. Consider safety and efficiency. Complete the pipe-size row.

water-flow rate (gpm)	21.6	18.0	14.4	10.8	7.2	3.6
pipe size (inches)	1 <u>1</u>	1 <u>1</u> 4	1 <u>1</u> 4	1	1	3 4

**II.** Table 1 can be extended for use when the required water-flow rates are greater than the 22 gpm the table shows.

Decide whether the minimum pipe size to suit a water-flow rate of 38 gpm is  $2\frac{1}{2}$  inch or 2 inch. Clearly explain and justify your decision.

Give details pertinent to for 2-inch pipe: from table an increase of 2 gpm increases the velocity value

	22	24	26	28	30	32	34	36	38
	2.38	2.60	2.82	3.04	3.26	3.48	3.70	3.92	4.14
	•••••	••••••							•••••
½-inc	ch pipe: ir	icrease	of 2 gpr	n increa	ses the	velocity	value by	/ approx	imately
	22	24	26	28	30	32	34	36	38
	1.66	1.81	1.96	2.11	2.26	2.41	2.56	2.71	2.86
	1	1		1	1				
	•••••								
cy rule	e: can't e	xceed 5	tps whi	ch neith	er size p	pipe does	5		
ency	rule: velo	city sho	uld be a	s close a	as possi	ble to 5	fps		
?-inch	pipe wit	h4.14	fns is th	e best a	is 4.14	fps is cl	oser to	5 fns tl	1an 2.8
	Pipe me							<u> </u>	

4 of 5 No response has been made unintelligible requirements for any other at any time. Response is or does not satisfy the Finding material in an indexed collection z 0 grade. **Marking Unit 2 Estimating numerical magnitude** • THREE of the correct pipe sizes correctly listed. evidence of extrapolating in an attempt to obtain a necessary value. for part II, provides OR Ш for part I provides The response The response • FOUR of the correct pipe sizes evidence of extrapolating in an consequentially correct pipe size is explicitly stated. attempt to obtain a necessary 17 2 for part II, provides OR for part I provides A decision to use a Ω correctly listed. The response The response value. Structuring ... a mathematical argument Marking Scheme FOUR of the correct pipe sizes evidence of extrapolating in an one observable mechanical error consequentially correct pipe size working as applicable, provides attempt to obtain a necessary for part II, allowing for at most evidence of extrapolating the and consequentially correct for part II, provides OR necessary value/s. A decision to use a for part I provides C is explicitly stated. correctly listed The response The response value. Extrapolating consequentially correct pipe size and the correct explanation must be An observable mechanical error is a transcription error, an incorrect • FOUR of the correct pipe sizes consequentially correct pipe size is explicitly stated. one observable mechanical error result to a correctly stated operation or using the 2 gpm increment for part II, allowing for at most working as applicable, provides evidence of extrapolating the ∞I4 4. A necessary value is the velocity of water in the pipe at 38 gpm. and consequentially correct -The decision to use the 2-inch pipe or the decision to use a necessary value/s. <del>.</del> A decision to use a for part I provides ш correctly listed **TEM 14** 35 The response -14 53 based on extrapolated data and 5 fps rules. -14 -14 **PERFORMANCE DOMAIN** -10 1-10 from the table as a 1 gpm increment. 1. The five correct pipe sizes are The decision to use the 2-inch pipe statements are used to obtain the rather than the 21/2-inch pipe is the FIVE correct pipe sizes extrapolating the necessary explicitly stated and correctly No incorrect information or **UNIT EIGHT**  evidence of correctly for part II provides for part I provides 4 correctly listed The response value/s. explained. answer. Notes: નં ÷.

UNIT EIGHT	ITEM 14 Marking S	cheme
Model Responses:		
1.		2.
Varter-flow rate (anm) 21.6 18.0 14	44 108 72 3.6	withereflature rate former) 21.6 18.0 14.4 10.8 72 3.6
pipe size (inches) $1\frac{1}{2}$ $1\frac{1}{4}$ $1$	4         1         1         3           4         1         4         4	pipe size (inches) $1\frac{1}{2}$ $1\frac{1}{4}$ $1\frac{1}{4}$ $1\frac{1}{4}$ $1$ $1$ $1$ $\frac{3}{4}$
II. The water-flow rate of a 2-inch j	pipe increases by 0.11 every 1 gpm.	II. for 2-inch pipe: from table an increase of 2 gpm increases the velocity value by approximately 0.22
The water-flow rate of a 2½-incl	h pipe increases by 0.07 then 0.08 and this repeats continuously.	22 24 26 28 30 32 34 36 38
Water-flow rate increase averag	es 0.075 fps every 1 gpm.	2.38         2.60         2.82         3.04         3.26         3.48         3.70         3.92         4.14
<b><u>2-inch pipe</u></b> $0.10 + 0.11 \times 37 = 4.17$ , therefore	e velocity if using 2-inch pipe would be 4.17 fps.	for 21/z-inch pipe: increase of 2 gpm increases the velocity value by approximately 0.15
$\frac{2^{1/2} - \ln ch}{0.15 + 0.075 \times 36 = 2.85. \text{ therefor}}$	re velocity if using 2%-inch nine would be 2.85 fbs.	22         24         26         28         30         32         34         36         38
Therefore the 2-inch pipe is the 1	minimum size to suit a water-flow rate of 38 gpm as the velocity is	1.66         1.81         1.96         2.11         2.26         2.41         2.56         2.71         2.86
below 5 fps, but as close to 5 fps	as possible out of the two pipes.	safety rule: can't exceed 5 fps which neither size pipe does
		efficiency rule: velocity should be as close as possible to 5 fps
		The 2-inch pipe with 4.14 fps is the best as 4.14 fps is closer to 5 fps than 2.86 fps.
		Marking Unit 2 5 of 5

# **Unit Nine**

The items in this unit are based on a short play about a cheating incident at a school.

The following table shows the percentage of responses awarded the various grades for the items in this unit.

	A	В	C	D	E	N	0
ltem 15	2.2	10.9	23.6	22.2	18.4	16.7	6.0
item 16	3.2	4.8	33.4	29.9	9.6	6.3	12.8
	A shac	led box indica	tes that the g	rade was not a	available for th	at item.	·

# Item 15

# Commentary



Item 15 is a four-star item that tested achievement in CCEs 33 *Inferring*, 52 *Searching and locating* ... *information* and 12 *Compiling lists*.

This item required students to list the events that happened in order: starting at the night before the test when student A watches TV for five hours and ending with the morning after the test when A and H arrive outside Mr Hill's office and are about to have their conversation.

The cue directed students to use point form and to indicate when each event happened.

An A-grade response needed to provide the seven essential events in the correct sequence and could include additional acceptable events. Any acceptable events included also had to be correctly positioned within the sequence. The response needed to provide evidence of an understanding about when each of the essential events happened. No errors or incorrect statements could appear in an A-grade response.

Students should remember to consider all relevant information provided before they begin to craft their response. The stem indicated that the introductory information as well as the dialogue should be considered when listing the events that occurred. The event mentioned in the introduction, i.e. 'they had both been called to the office the previous day to explain their conduct' was often omitted from the list of events in responses.

Students should be precise in their use of language to convey their ideas accurately. Some responses incorrectly listed A's mum being called to the office rather than already being in the office as indicated in the script.

Enough evidence is given in the introductory information and in the dialogue to be able to infer the sequence of events leading up to A and H arriving outside Mr Hill's office.

List, in order, the events that happened. Start at the night before the test when student A watches TV for five hours. End with the morning after the test when A and H arrive outside Mr Hill's office and are about to have their conversation.

Use point form. Indicate when each event happened.

The first event and an indication of when it happened has been given.

- student A watches TV for five hours (night before the test)
- A and H study together before test on day of test
- In the test A copies from H
- A and H are called to the principal's office later that day
- That night H tells mother
- H's mother contacts principal the next morning
- A's mother in the office that morning
- In the morning A and H arrive outside office

	ing lists	z	Response is unintelligible or does not satisfy the requirements for any other grade.			No response has been made at any time.									Unit 9 1 of 3
	n 12 Compil	ш	The response provides THREE of the essential events, in correct sequence.						, e.g. Mr Hill is	instead of H or vice versa or used correctly		ıe stipulated		the sequence.	sequence, any ades. Marking I
	locating information	D	The response provides FOUR of the essential events, in correct sequence.		ce are:				ned during the stipulated time frame	rade, refer to events where A is used imaths or social studies test. out the response A is used for H and read the response as if they are being		not happen or it happened outside tl	50	event is incorrectly positioned within	its are given and they are in correct ithout penalty at the C-, D- and E-gi
Marking Scheme	52 Searching and	С	The response provides FIVE of the essential events, in correct sequence.		ssential events in the correct sequen	ıdy together off H Iled to office	num n calls school	ı in office rive outside office	events could reasonably have happe ve the same answers.	atements, only considered at the A-g s are used or the test is misnamed as grades (B, C, D and E), if through than A or H are used consistently, ccordingly.	rree possible types of errors:	error — an event is given but it did ne	error — an essential event is missin	error — an essential or acceptable e	ne required number of essential ever errors may appear in the response w
EM 15	N 33 Inferring	В	The response, allowing for at most two errors (each of a different type) • provides essential events in sequence and • may include acceptable events positioned within the sequence.	Notes:	1. The seven e	1 A&H str 2 A copies 3 A&H ca	4 H tells n 5 H's mun	st on day of test 7 A&H ar	2. Acceptable al's office later told they ha	<ol> <li>Incorrect states</li> <li>Other letters</li> <li>At the other</li> <li>At the other</li> <li>enext morning</li> <li>letters other</li> <li>ning</li> <li>and grade a</li> </ol>	utside office 4. There are th	<ul> <li>accuracy time-fran</li> </ul>	omission	• sequence	5. Providing th number of e
UNIT NINE IT	PERFORMANCE DOMAL	Α	The response         • provides <u>the</u> SEVEN essential         • vents in <u>the</u> correct sequence         and         • may include acceptable events.	included must be correctly positioned within <u>the</u> sequence.	There is an understanding of when the essential events hannened.	No errors or incorrect statements appear in the response.	Model Response:	<ul> <li>A and H study together before te</li> </ul>	<ul> <li>In the test A copies from H</li> <li>A and H are called to the princip</li> </ul>	<ul> <li>that day</li> <li>That night H tells mother</li> <li>H's mother contacts principal the</li> <li>A's mother in the office that mori-</li> </ul>	• In the morning A and H arrive o				

# Item 16

## Commentary



Item 16 is a four-star item that tested achievement in CCEs 28 *Empathising*, 26 *Explaining to others*, 43 *Analysing* and 55 *Gesturing*.

This item required students to consider two different ways the actor playing H could deliver the final words of the play that would result in two different meanings being conveyed. For each of the different ways of delivering the words, students had to describe how H might use two of an actor's tools: voice, body movements/gestures or facial expressions. For each delivery, students had to

ensure the intended meaning was clearly conveyed. The response area for this item was organised in two sections so students were prompted to consider a first meaning and delivery and a second meaning and delivery.

The cue in each section directed students to be specific in their descriptions.

An A-grade response for each section needed to provide a meaning and give a description of how to use two of the tools of the trade to achieve that meaning. The use of each of the tools had to be explicitly linked to the intended meaning in both of the sections. The meanings had to be different and could not be inconsistent with a reasonable reading of the play. No transcription errors could appear in the response.

Students should remember to read the introduction to an item carefully so they understand definitions and explanations that are provided. In this item an explanation of the tools of an actor's trade was given. In understanding the possible meaning of a play script's final line, the entire script must be understood. A cue must always be attended to. The cue to 'Be specific in your descriptions' was important for success in this item as some responses did not receive the highest grade as the descriptions given were too general.

The last line of the play has H asking A:

So what are you going to do about today's social studies test?

Consider two different ways the actor playing H could deliver these words that would result in two different meanings being conveyed.

For each of the different ways of delivering the words, describe how the actor could use **two** of the tools — voice, body movement/gestures, facial expressions — when delivering the words to achieve an intended meaning. For each delivery ensure the intended meaning is stated clearly.

#### FIRST MEANING AND DELIVERY

 

 Be specific in your description.
 This line may be read as meaning, 'OK, if you are not going to cheat, how on earth are you going to pass today's test?' I suggest the actor deliver these

 lines with a long gloating 'So' followed by the rest of the sentence in a mocking/taunting tone, with special stress on the words 'you' and 'today's'. The delivery of the words should be accompanied by an exaggerated, arm-long finger pointing at A. H is to give impression that she'll enjoy seeing A's train wreck.

SECOND MEANING AND DELIVERY

Be specific in your description. This line may be read as meaning, 'So, once we've sorted this case of cheating, what's your plan for cheating in today's test?' H should lean in toward A

conspiratorially and say the words in an eager whisper. H is to give the impression that

the past is forgotten and she and A are again partners in crime.

<b>PERFORMANCE DOMAN 28</b> Empathising <b>26</b> Explaining to others <b>3</b> Analysing <b>55</b> Nalysing		ITEM 16	()	Marking Scheme	۵		
A         B         C         D         D         E           For addy setting in the response to reduct a meaning to rod to the setting attention in the response         For addy setting in th	<b>PERFORMANCE DOM</b>	AIN 28	Empathising	26 Explaining	to others 43 A	nalysing 55 (	Gesturing
For <u>end</u> , section, the response or reginds a meaning.       For <u>end</u> , section, the response or reginds a meaning.       • provides a meaning.       • provides a meaning.         • root differ a meaning are circly on the root on the	Α		B	C	D	Е	Z
Model Response:       Filte may be read as meaning, 'OK, if you are not going to cheat, how on earth are you going to pass today's test?' I suggest the actor deliver these lines with a long gloating 'So'       SECOND MEANING AND DELIVERY         This line may be read as meaning, 'OK, if you are not going to pass today's test?' I suggest the actor deliver these lines with a long gloating 'So'       SECOND MEANING AND DELIVERY         Onlowed by the rest of the sentence in a mocking/taunting tone, with special stress on the words should be accompanied by an xaggerated, arm-long finger pointing at A. H is to give impression that she'll enjoy eeing A's train wreck.       Second meaning, 'So, once we've sorted this case of cheating, what's you	For each section, the response • provides a meaning • gives a description of how to use TWO of the tools to achieve that meaning. The use of each of the tools is explicitly linked to the intended meaning in both of the sections. The meanings are different and are not inconsistent with a reasonable reading of the play. No transcription errors appear in the response.	For each secti • provides a r • gives a desci ONE of the meaning. The use of the linked to the i both of the secti teasonable rei For each secti • provides a n • gives a desci TWO of the meaning.	ion, the response meaning ription of how to use tools to achieve that at ool is explicitly intended meaning in citions. a adding of the play. • OR on, the response meaning ription of how to use rools to achieve that a ding of the play.	<ul> <li>For each section, the response</li> <li>provides a meaning.</li> <li>The meanings are different and are not inconsistent with a reasonable reading of the play.</li> <li>OR OR</li> <li>Provides a meaning of the tools to achieve that meaning.</li> <li>The meaning is not inconsistent with a reasonable reading of the play.</li> </ul>	For <u>one</u> section, the response • provides a meaning. The meaning is not inconsistent with a reasonable reading of the play. <b>OR</b> For <u>each</u> section, the response • indicates H's attitude towards A • gives a description of how to use ONE of the tools to achieve that attitude. The two attitudes are different and are not inconsistent with a reasonable reading of the play.	<ul> <li>For <u>one</u> section, the response</li> <li>indicates H's attitude towards A</li> <li>gives a description of how to use ONE of the tools to achieve that attitude.</li> <li>The attitude is not inconsistent with a reasonable reading of the play.</li> </ul>	Response is unintelligible or does not satisfy the requirement for any other grade. O No response has been mad at any time.
This line may be read as meaning, 'OK, if you are not going to cheating, what's you going to pass today's test?' I suggest the actor deliver these lines with a long goating 'So' plan for cheating in today's test?' I suggest the actor deliver these lines with a long goating 'So' plan for cheating in today's test?' I suggest the actor deliver these lines with a long goating 'So' plan for cheating in today's test?' I suggest the actor deliver these lines with a long goating 'So' plan for cheating in today's test?' H should lean in toward A conspiratorially and say the words you' and 'today's'. The delivery of the words should be accompanied by an exaggerated, arm-long finger pointing at A. H is to give impression that she'll enjoy seeing A's train wreck.	Model Response: First meaning and delivery	~.		SECOND MEA	UNING AND DELIVERY		
Marking L	This line may be read as meaning, 'O going to pass today's test?' I suggest t ollowed by the rest of the sentence in vords 'you' and 'today's'. The deliver xaggerated, arm-long finger pointing eeing A's train wreck.	K, if you are not the actor deliver 1 a mocking/taun 17 of the words s g at A. H is to giv	t going to cheat, how on these lines with a long <i>i</i> tting tone, with special s should be accompanied ve impression that she'll	earth are you This line may b Joating 'So' plan for cheatin tress on the words in an eag by an and A are again enjoy	ce read as meaning, 'So, once we've sou ng in today's test?' H should lean in to ger whisper. H is to give the impression n partners in crime.	ted this case of cheating, what's your ward A conspiratorially and say the 1 that the past is forgotten and she	
						Marking U	nit 9 2 o

		3 of 3
Marking Scheme	when the actor delivers the last line of the play. A has just said, 'I'm never going to cheat again.' Is this true or not' ust about low H feels. How H feels is H's attitude towards A. "If generals field attemption matt be specific so a person would know what to do with their voice or their body or "If generals field attemption matt be specific so a person would know what to do with their voice or their body or "The order the description does not just use such phrases as an open stance, a quizzical look, a sureasite voice. The does the dist of the description matt be specific so a person would know what to do with the present. The does the start his and the south matter be done with: pitch, volume, emphasis, inflection, speedbasee, pause, bied, areol just an effect. A friendly gesture is an effect which might be achieved by putting an arm around the person. The does e.g. an angry face is not a description of using facial expressions. It is an effect caused perhaps by the error has not been made and grade accordingy.	Marking Unit 9 3
NIT NINE ITEM 16	<ol> <li>The meaning provides an understanding of what H means Ask — what does H mean when she says the line. It is not ja Ask — what does H mean when she says the line. It is not jint in the recols to choose two from are voice, body moveme A description of how to use a tool shows what it is the actor their face, e.g. a loud voice, a shrug, a smile, cross the arms. Until we know what to do with voice or body or face, a description provides any of the following might give the to For voice, the use of any of the following might give the tot or body movement/gestures, a movement must be description provides the other person or using a death stare.</li> <li>Transcription errors, only considered at the A-grade, occur At the other grades (B, C, D and E) read the response as the At the other grades (B, C, D and E) read the response as the At the other grades (B, C, D and E) read the response as the At the other grades (B, C, D and E) read the response as the At the other grades (B, C, D and E) read the response as the At the other grades (B, C, D and E) read the response as the At the other grades (B, C, D and E) read the response as the At the other grades (B, C, D and E) read the response as the At the other grades (B, C, D and E) read the response as the At the other grades (B, C, D and E) read the response as the At the other grades (B, C, D and E) read the response as the At the other grades (B, C, D and E) read the response as the At the other grades (B, C, D and E) read the response as the At the other grades (B, C, D and E) read the response as the At the other grades (B, C, D and E) read the response as the At the other grades (B, C, D and E) read the response as the At the other grades (B, C, D and E) read the response as the At the other grades (B, C, D and E) read the response as the At the other grades (B, C, D and E) read the response as the At the other grades (B, C, D and E) read the response to the At the At the other grades (B, C, D and E) read the response to the At the At the At the other g</li></ol>	
S	N -  N -  N	

# Writing Task (WT)

This section describes the 2016 Writing Task testpaper and comments on the writing that students produced in response. The comments are based on an analysis of a statistically significant random sample of student responses to the testpaper. Copyright restrictions do not allow the testpaper to be reproduced in this document.

The Writing Task complements the other three subtests of the QCS Test by testing a student's ability to produce a piece of continuous English prose in response to the testpaper. The testpaper provides an overall concept or theme and a number of written and visual stimulus pieces related to the overall concept. Each stimulus piece evokes a different aspect of the concept and is intended to assist the student in prompting and developing ideas for their response to the testpaper. The student response is to demonstrate a clear connection both to the overall concept, and also, to one or more of the stimulus pieces.

Responses to the testpaper are to be about 600 words in length and students may write in any form or style (except poetry). A breakdown is provided here of student responses according to the stimulus pieces used for ideas and the genres represented in the responses.

Each response is marked by three independent markers. Depending on which of the three marksheets has been randomly selected, each marker assigns either four criteria-based standards, or three criteria-based standards and a judgment about Length. Different combinations of judgments are required of the three primary markers. Markers consider the contribution to the holistic worth of the response of each of the criteria they are considering. On the marksheet, they record each of their judgments as a standard (from 1 to 6) with a qualifier (+,0,-) and, if required, they indicate a judgment about the length of the response. Referee marking occurs if required.

The most successful responses to the Writing Task are those that demonstrate higher achievement in the criteria identified in the marking guide (page 74). The criteria are: Central idea (CI); Vocabulary (V); Responsiveness (R); Grammar, punctuation, spelling (GPS); Structuring & sequencing (SS); and Length (L). The marking guide is provided here to show the criteria and standards used to grade the responses.

Finally, a selection of student responses has been included to exemplify successful writing as defined by the task criteria.

# WT 2016 Overall concept: Seeing things

The overall concept linking the 15 separate stimulus pieces on the 2016 Writing Task testpaper is *seeing things*. Markers needed to be alert to the possible interpretations of this concept as they made judgments on the criterion of Responsiveness.

Students who took the overall concept literally may have written about physical aspects of seeing things, referring to the sense of sight, and so, focusing on the way we experience the world through seeing it. They might have dealt with the importance and value of the sense of sight or the hardship of losing it. If they took the term to represent 'thinking' or 'realising', they might have considered the idiosyncratic ways in which we think about 'things'. A broader interpretation of seeing things could encompass having a vision that can influence one's actions and behaviour, being deluded by what one sees and experiences, or even perhaps, experiencing hallucinations.

Whatever the interpretation of seeing things, this concept provided scope for a range of responses in a variety of text types: expository, imaginative, persuasive and reflective. Students wrote reports, discussions, and arguments about significant things in life, especially those that we see. They also responded in true or fictional accounts of things seen, short stories, or reflections on experiences or events, either fictional or actual. It provided a starting point for responses that focused on physical elements or that tapped into more intangible aspects of the human condition.

# Diagram of the testpaper

The testpaper includes 15 separate pieces of stimulus material relating to the concept.



# **Stimulus pieces**

The following diagram shows the percentage of students who indicated (by ticks on the diagram on the front cover of their response book) that they selected ideas from a particular stimulus piece (or pieces) as a resource for their writing. In reality, most students used a combination of two or more stimulus pieces in developing the response, thus opening up a greater variety of possibilities for their writing. For this reason, the percentages shown in this diagram add up to more than 100%.



Indication of stimulus pieces as starting point or resource

# **Commentary on stimulus pieces**

Students were required to compose a response that demonstrated a clear connection to the overall concept *and* to one or more of the stimulus pieces discussed here.

The following commentary is based largely on the assumption that students used only one of the stimulus pieces as a starting point or source of ideas for their responses to the overall concept of the testpaper. The reality is that many, if not most, drew their ideas from two or more stimulus pieces.

#### 1 A still face

The main interest in this stimulus piece is in something that is seen but not identified, that is in 'what he saw'. The words are taken from the novel, *The Historian*. Students who used this stimulus piece as a starting point tried to imagine what that might be and, since the face of the person observed by the narrator is 'grave', usually assumed that the unseen thing was probably serious, troublesome, or dark, say, a forged painting, a last will and testament, a bag full of stolen money, someone delivering bad news, a ghost, or even a zombie.

Some students obviously drew upon movies or television programs for some of their ideas. Imaginative responses were frequently the result in responses such as short stories dealing with scientific discoveries, criminal activities, or the supernatural. These responses often involved a first person narrator engaged in solving the mystery of what the anonymous 'he' was seeing and why his face was grave.

#### **2** Eyes

This is another stimulus piece for which the focus can be something seen but not identified. In this case, the eyes in the image appear to belong to a girl or woman (perhaps the nosy woman next door) who has torn a hole in a screen or blind of some kind. The viewer seems to be spying and could be fearful of someone or something, or could simply be curious about something observed.

The image was a starting point for descriptions of the viewer or of the mysterious thing that was seen, or for discussions about some aspect of eyesight. Some students made connections between this and stimulus piece 1, resulting in comments about issues of privacy, including the increasingly common use of technology and the media. It prompted some responses that were linked to the recent census. The image was a reminder that there is now very little in our lives that can be kept really secret.

## **3** Blind to the future

This is an adapted quote from the speech delivered by the president of West Germany, Richard von Weizsäcker on the fortieth anniversary of the end of war in Europe, 8 May 1985. This marked the start of German post-war self-examination. Students drawn to this stimulus piece most probably would not have known who said the words or when they were spoken; however, their responses indicated that they clearly understood the advice that we should consider our decisions and actions carefully in the light of what we have learned from the past.

The piece prompted expository or persuasive responses about the danger, either for an individual or for society as a whole, of ignoring our knowledge of past and present events. Some students made links between this and stimulus piece 13 and focused on scientific and medical discoveries and developments. Responses included media articles, editorials, speeches, and transcripts of interviews. The subject matter ranged from one's personal behaviour to events such as the recent federal election, terrorist attacks and the global migration of refugees.

#### 4 Virtual reality

There has been an explosion in the technology of virtual reality environments. Examples are all around, in GPS navigators, in animated films and video games, and in the recent and surprisingly short-lived craze of Pokémon Go. The use of virtual reality has become invaluable to education and training in fields as diverse as aviation, warfare, surgery, architectural design and urban planning.
Some students responded to this stimulus piece in expositions, explaining what virtual reality is and describing some of its applications, in some cases revealing a knowledge of robotics. There were media articles examining the truth of the initial statement in the stimulus piece, with many writers arguing strongly for or against the value of virtual reality, pointing out the potential or the hazards involved in this technology. Some students wrote imaginative responses in futuristic stories or fantasies.

#### 5 The kid

The written text of this stimulus piece consists of three lines from a song written by Robert Mondlock for the singers, Peter, Paul and Mary. Together with the image of the young boy sitting on the rim of the reading glasses, the words evoke a vision of childhood dreaming. The fictional 'kid' confesses to gazing out of the classroom window and imagining other worlds, 'far beyond just the schoolyard'.

The words and the image together provided ideas for accounts of real or imaginary escapes from the classroom. Some students reflected on daydreams about experiences that they hope to have in the future. Some responded in graduation speeches. This piece provided a starting point for articles about travel destinations and for extracts from travel guides or journals. The 'things' prompted descriptions of places waiting to be explored, adventures to plan or paths to tread in the future. It provided ideas for imaginative pieces, such as stories told from the perspective of 'the kid', either as a child, or as an adult reminiscing on the past, and fictional accounts from a teacher.

#### 6 Unseeing

This stimulus piece, with its image of some of the destruction caused by the 2011 tsunami in Japan, is a darker piece reminding us of the power of the visual. We are bombarded every day by still and moving images, some of which, once seen, are simply unforgettable.

Students who responded to this stimulus piece accepted the connection of the written text with the image. Mostly, they wrote about disasters that they had heard about or viewed. Their responses included descriptions and accounts of an event and its after-effects. Some wrote imaginative responses in a narrative form, about things they were not supposed to see, but now cannot forget. In some cases, the responses focused on something personal and positive, which had imprinted itself on the writer's mind.

#### 7a-b Reading glasses

Using the written text as the starting point, some students responded to either or both of these pieces with expositions about the invention of reading glasses or the concept of magnification or with personal accounts of their own experience of being diagnosed as needing glasses followed by a description of their joy in being able to see clearly as a result. Others discussed the effects of glasses becoming available to all. This was a piece used more often in conjunction with other stimulus pieces than alone.

#### 8 Disguise

The written text in this stimulus piece is taken from Shakespeare's *Twelfth Night*. The speaker, Viola, is masquerading as a male, Cesario, who has realised that the beautiful noblewoman, Olivia, has fallen in love with the young man she is pretending to be. Of course, this kind of deception has the potential to cause trouble and some students responded with perceptive discussions of the danger in making judgments based on appearances only.

The piece invited expository or persuasive responses that examined the morality of acting in a way that is not true to one's real character or personality. Some described the person who plays a part to cover their real feelings or personality and some of the resulting responses focused on the 'sadness' that can result from such pretence. The playful image that accompanied the words also prompted responses that were imaginative or lighthearted accounts of times and events when people have taken on a disguise.

#### 9 The Arts

This comment, from *The Decay of Lying* by Oscar Wilde, gives opportunities for students to explain their perceptions of particular works of art that especially impress them or influence them to hold particular views. Some students wrote about the influence of the arts in their lives or on society. The comment allows for consideration of artistic fields as diverse as dance, music, theatre, media arts, literature, design, as well as the visual arts. Expositions, descriptions and personal reflections were most common amongst the responses and some students gave accounts of how their perceptions of the world had changed over time with exposure to particular art forms.

#### 10 Other senses

This stimulus piece focuses on the physical senses, vision being the one most clearly related to the overall concept of the testpaper. Although the written text stands alone, it is backed by a wallpaper of braille (a copy of a page from the braille version of the Reading Magazine of the 2016 NAPLAN Test). The piece suggests that other physical senses may be developed and strengthened to compensate for a weakness in a particular sense.

Some students reflected on the significance of vision in their own lives or speculated on how they would live their lives if one of their senses were to fail. Responses included real-life accounts and expositions about aspects of vision or the effect of blindness. There were accounts of the work of charitable medical missions that treat blindness and poor eyesight for people in remote places. Linked with stimulus piece 14, this piece prompted some accounts of the support that guide dogs provide for their owners. Some students wrote imaginative responses in short stories in which vision or lack of vision played a part.

#### 11 Insights

The written text of this stimulus piece is accompanied by an image of the spines of several books and a DVD case. Reading and viewing widely is valued in our schools and communities and students were able to use one or more of the titles shown, or other titles entirely, as starting points for responses. Some reflected on the role of specific books and films in developing their own particular views of the world. Expositions and reflections predominated amongst the responses, although there were also imaginative narratives in which a fictional character was influenced by something read or viewed.

#### 12 Seeing things differently

Understanding ideas and issues is fundamental to anyone living in a democratic society. This stimulus piece promotes the importance of developing and expressing one's personal views. Some students explained how they had formed certain opinions and how they had faced reactions from others. In recent months, issues of politics, race and religion had given them much to think about: a looming election in America, the Brexit decision in the UK, attacks by terrorists in many countries, and disquiet about the global refugee immigration. Students argued their cases with passion and emotion in editorials, media articles and transcripts of speeches and debates.

#### **13** Observing systematically

This stimulus piece deals with the role played by observation in many areas of human activity. There is an emphasis on the idea of the observation being 'systematic' rather than random or subjective. The ellipsis in the written text was intended to leave the way open for students to nominate their own area of interest. This made it possible for them to discuss, as they did in expositions or persuasive pieces, what has been and can be learned and achieved through careful examination and analysis of scientific phenomena, world events, political actions, and human relationships. Responses included stories about personal successes and failures, science reports, explanations of how historical events unfolded, accounts of medical breakthroughs, and discussions of past, and even future space exploration.

#### **14** Keep your eye on the ball

The written text in this stimulus piece provides a command that refers to a different kind of observation from that of stimulus piece 13, one in which the focus is moving, or changing. It is an instruction that has wide application, especially in competitive situations. It allowed for students to write a report or an imaginative piece about a sporting experience. Some told the story of a real or fictional sporting star who succeeded against all odds, or of one who tried and failed. Some used the recent Olympic Games for material about competitors, their coaches, and issues that arose.

Some students used the written text and the image of the dog and the soccer ball together, to generate stories about the path to success, the way to failure, or even accounts of walking the dog when the dog did or didn't keep watching the ball. Applied more widely, persuasive or expository pieces resulted, with a focus on other areas of human endeavour, such as business, science, education, government, politics, health or human relationships. Some students related the words to their studies and to their ambitions in life.

#### **15** Pics

This stimulus piece refers to the current preoccupation with recording images of one's own activities. At no other time in history have people been so obsessed with recording themselves and their experience of the world. The selfie reigns supreme. In this stimulus piece, the Tower of Pisa 'leans' on the man in the photo. The message on the phone indicates an ever-present demand for proof. The stimulus piece presents an image deliberately constructed for effect. It is a reminder that we shouldn't believe everything we see. We know that those who create images of this kind present what they want us to see, in the make-believe of adventure and comedy movies and in the manipulative messages of advertising. Even knowing this, we are aware that we are being influenced. The power is not only in the hands of the professionals. As the image shown here indicates, anyone can do it.

This stimulus piece prompted mostly imaginative responses, such as holiday anecdotes, stories of blackmail or the stories behind the picture. However, it also helped to generate some 'too good to be true' real-life accounts, expositions about the technologies that we use and persuasive pieces about the hazards of foreign travel. Some students made links between this piece and stimulus piece 6 as they developed their ideas.

### Stimulus pieces: Visual, written or combination?

Students have the option of responding to the visual images, the written texts, or a combination of both. This year, 42% of students responded to both visual and written stimulus pieces. An additional 47% responded to only written stimulus pieces and a mere 8% responded to only a piece of visual stimulus. Stimulus pieces for the WT are selected to maximise appeal for a wide cross-section of the Year 12 population. The material chosen is designed to engage students and prompt ideas for their writing. When considering a stimulus piece (or pieces) and what to write, students should remember that, by the time they reach Year 12, they have a wealth of personal and subject-based knowledge and experience that they can draw upon.

When students use ideas from the written stimulus pieces, there is a danger that they may quote large portions of text directly. This can affect markers' judgments of Length (words from the stimulus pieces are not counted) and the Central idea (if the ideas being presented are not the student's own). Direct quoting can also detract from a response when the language style of the quoted material differs from the student's style, or when quotations are used out of context or incorrectly (affecting Structuring & sequencing, Vocabulary, and Grammar, punctuation, spelling).

### Choice of text type

Student responses to a WT testpaper may be categorised, according to their purpose, into four major text types: imaginative, expository, reflective and persuasive.

In 2016, the most popular text type for students was the expository response, with 35% of students writing in this form. This was closely followed by imaginative pieces, written by 31% of students.

Persuasive responses accounted for 20% of scripts and 14% of responses were reflective.

When determining which text type to use, students need to consider the ultimate purpose of their writing. Do they wish to entertain their audience (imaginative)? Do they want to convey information (expository)? Would they like to recall, contemplate or share experiences (reflective)? Is it their intent to convince their audience of a particular viewpoint (persuasive)? Understanding this can help students to plan effectively and give focus to their writing.

### Choice of genre

Within the broader categories of genre, students may write in whatever genre they wish, with the exception of poetry. This enables them to draw on their knowledge and strengths, and to match their ideas from the stimulus with a suitable style of response. They need to decide which genre will allow them to demonstrate their best writing. They should keep in mind, as they plan their response, that some genres, e.g. the speech and the essay, can have a variety of purposes such as exposition or persuasion. Also, when they choose a genre, they need to be sure they can control its conventions. A short story, for example, should cover a short span of time; a media article should have short paragraphs.

As shown in the diagram here, in 2016, the most popular genre was the essay, the next most popular the short story. Personal recounts, reflections and speeches were the next most popular. It is worth noting that, while genre conventions are not assessed specifically (although they may affect Structuring & sequencing), students should aim to make use of, and indeed exploit, these conventions for effect. Students should be encouraged to discover in which genres they write most confidently and competently. This should allow them to produce their best writing.



Popularity of genre: total sample

#### Essay

The definition of the essay is vague, as it has become a genre required in many school subjects. Perhaps the simplest definition is that it is a piece of writing that usually expresses the author's personal point of view.

The essay was a popular choice. This is perhaps because essay writing lends itself to a range of different topics, is a writing style that students use across the majority of subject areas, and has elements that are similar to several other genres. The most successful of these responses were very clearly focused on purpose and audience and developed a clear thesis. Essays that were well written followed a clear structure, consisting of: an introduction (including a thesis statement); a body of writing (containing development and explanation of main points); and a concluding paragraph (presenting a summary).

#### Short story

The short story was one of the most popular genres and, not surprisingly, stories covered a wide variety of topics. The most successful were those that drew on students' own knowledge and experiences and made effective language choices such as varied sentence length and use of description (including metaphor and personification). Also, successful stories tended to be written with a goal in mind from the outset — that is, there was an effective establishment and development of ideas, a clear resolution and a compelling conclusion. Students should be wary of some strategies that are likely to have a negative impact on achievement. An example is the story that ends with the narrator waking to find it was all a dream or one that is written in the first person with the narrator dying at the end. This is significant to the criteria of Central idea

and Structuring & sequencing. Many such stories indicated a lack of planning and, consequently, a lack of direction. Other common problems were inconsistencies and inaccuracies in using tense and narrative perspective.

#### Speech

Speeches ranged from the informative to the persuasive. Having a clear understanding of the purpose and audience of the speech is crucial for success. This can be achieved by creating a context that establishes the speaker's credentials and the audience's potential interest. This means students need to ensure that their topic is suitable for this genre; that is, it should be a topic that is not contrived and that would interest the intended audience.

#### Personal recount/reflection

Students can elect to write about themselves. They may produce a piece that recounts or reviews a personal experience or a piece that reflects on their lives or their ideas. This genre is reminiscent of some blog entries. The popularity of this genre is not surprising.

#### Media article

This genre includes texts such as feature articles, editorials and journal articles. Predominantly expositional in nature, media articles require students to have a reasonable knowledge of their topic. Therefore, students should carefully consider their own background knowledge and expertise when selecting this approach to respond to their chosen stimulus piece/s. They should also consider the conventions of the genre. For example, feature articles usually have shorter paragraphs than essays.

#### Drama script

Drama scripts made up only a small percentage of the responses this year. Students who write in this form need knowledge of the specific conventions of the genre, and need to be able to use them to effect.

#### Journal

Journal writing included texts such as a diary entry and these were usually reflective in style. This genre is often difficult for students, because writing 'as themselves' may limit opportunities for selecting and demonstrating a wide or discriminating vocabulary. Also, they tend to lose focus in this kind of writing, which can affect the criteria of Central idea and Structuring & sequencing. If students do choose to write a diary, the entries should not be short as the result can be a rather disjointed response. Paragraphs are still essential.

#### Letter

Letters can often provide challenges in Vocabulary and in Structuring & sequencing. To be successful, students should ensure that the purpose, and consequently, the content of the letter will be substantive enough to justify the choice of genre and to meet length requirements.

#### Report

A small percentage of students chose to write a report. Many of these were scientific, perhaps suggesting that students were aware of the genre best suited to their knowledge and experience. The genre conventions of a report should be used. Reports should make use of features such as subheadings as well as sections including, for example, objectives, conclusions and recommendations, to add to the authenticity of the writing and, consequently, to the authority of the writer. It would not be a good idea to write up a scientific experiment with just a list of materials and procedures. Rather, the writing should focus on a discussion of the findings.

#### Critique

Many of the students who wrote in this genre chose to write reviews about books or films that have had an impact on their lives.

### Achievement in specific criteria

In discussing specific criteria, reference is made to selected student responses that begin on page 77.

#### **Central idea**

When assessing this criterion, a marker is essentially asking what the response is about. That is, what is the student writing about and how well has the student deliberately and clearly developed this idea to reach an intended conclusion? The most successful responses will demonstrate direction — whether explicit or implicit — and resolution. Responses suffer in the criterion of central idea when there is uneven development of the idea or when there are several, perhaps vague, ideas present. A lack of resolution often results from lack of direction and, consequently, this has a negative impact on the judgment of this criterion.

#### Vocabulary

Many believe that 'the bigger the word, the better'. However, this is not necessarily the case. It is never a good idea to sacrifice meaning for style. Success in Vocabulary is determined by word choices: words that have been selected deliberately for effect and exactly fit their location within the text. While students should aim to demonstrate a knowledge and range of vocabulary, their control of language is also crucial. Incorrect and/or inappropriate word choice, lack of variety, and language that gets in the way of meaning will all influence a student's success in this criterion. Trying too hard to use complex vocabulary can also detract from a response. The biggest word is not always the best word, and sometimes, something as simple as using the wrong preposition can destroy meaning.

Making use of language devices such as metaphor and personification, as well as using 'technical' language suited to the context, proved to be very effective for many students. Less effective was the often jarring use of exaggeration and hyperbole, tautology and sweeping generalisations. Maintaining an awareness of the purpose and audience of the writing is essential for success in this criterion.

#### Responsiveness

The piece of writing that a student produces must clearly be a response to the testpaper on the day, showing a connection to both the overall concept and the stimulus piece/s. Therefore, of all the criteria, Responsiveness is weighted most heavily. Achievement will suffer where the connection is weak, or where the student responds to either the concept or stimulus, but not to both. The higher achieving scripts in this criterion will exhibit a strong and sustained connection to both. It is important to be aware that simply repeating the concept, '*seeing things*', several times is not demonstrating the criterion of Responsiveness. Evidence also suggests that responding to too many stimulus pieces reduces a student's likelihood of achieving well in this criterion. This is because a piece of this kind tends to make only passing or glancing reference to the concept or the stimulus pieces.

Students may benefit from a different approach in their planning. Rather than looking at the testpaper and asking, 'What can I write about?', it may be better to ask, 'What do I know a lot about that I can relate to something on this testpaper?'

#### Grammar, punctuation, spelling

Within this criterion, grammar is deemed more important than punctuation which, in turn, is more important than spelling. This is because each one of these can affect meaning more than the next. To achieve a high standard, students must consistently demonstrate precise and effective use of grammar, punctuation and spelling with few errors. This includes exploiting the conventions of writing for specific purposes and effects. Student achievement in this criterion will be affected by the degree to which errors detract from meaning. Proofreading is vital.

Regardless of achievement level, this is the criterion in which students performed most poorly. Some of the most frequent problems evident in responses were:

- inconsistencies with tense
- errors in antecedent agreement (particularly with singular, plural and indefinite pronouns)
- omission or incorrect use of punctuation, e.g. failing to end questions with question marks
- absence of apostrophes to identify possession or adding apostrophes to plurals.

#### Structuring & sequencing

This criterion requires markers to consider the architecture of the piece, that is, the way in which the ideas in the response are arranged. To be successful, the writing must demonstrate controlled structuring and deliberate sequencing of ideas. The writing needs to be fluent, logical and flexible. Achievement is hampered where there are weaknesses evident, such as gaps in logic, poor paragraphing or randomness in the arrangement of ideas.

Some of the problems with Structuring & sequencing arise when students do not clearly establish the context of their writing and, consequently, the development of ideas is less sequential. Also, poor editing can have a negative impact, particularly when students include information that is superfluous to the purpose, thereby weakening the response. In short stories, this often results from including too much unnecessary description. Of course, one thing that students can do to contribute to a well-structured response is to plan a clear strategy that is best suited to their individual writing abilities.

Students should consider their choice of genre when thinking about the structure and sequence of their writing. Although poetry is the only genre that is specifically forbidden, they should think about whether their genre choice will allow them to develop an idea in a clear sequence. For example, writing a 600-word grocery list would be a very bad idea. Students need to consider and discuss what genres or forms will allow them to develop and demonstrate their best writing in about 600 words of continuous prose.

#### Length

This subtest requires students to produce a piece of continuous prose, approximately 600 words in length. Penalties are applied for too short, far too short, too long, and far too long responses. While each criterion is considered and assessed independently, Length has the potential to have the greatest impact on achievement in other criteria. In terms of overall performance, scripts that are far too short are the most likely to be among the lower achieving responses.

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#### Criteria and standards

## Selected student responses

The responses that follow were selected from those that met the standards for successful writing as defined by the criteria and standards for judging student responses. These responses appear in their original handwritten form. They may contain errors in expression but, for the sake of authenticity, they have been published as they were written. They may also include some factual inaccuracies but it is important to note that accuracy of information is not one of the criteria by which the responses are judged.

With respect to handwriting, students should be aware that legibility is important. Markers will make a committed attempt to read poor handwriting but they cannot ignore errors due to missing or indecipherable letters. In schools, teachers may become familiar with a student's handwriting and may guess at their meaning or their spelling. Markers of these responses cannot do this. They must assess what they see. While there is no specific criterion that applies, it is inevitable that illegible handwriting will affect the judgments that can be made in all the criteria.

The selection of the examples here does not indicate a preference for any particular form of writing; nor are the sentiments expressed in these responses necessarily endorsed by the QCAA.

Before publication, the QCAA attempted to establish, but cannot guarantee, the originality of the writing in the responses.

#### **Response 1**

*If You Could See Me, Just Maybe* is an account of a visit by Hugo to an uncle who suffers from dementia. The purpose and the central idea are clear from the start. The narrative begins with some establishment of the context, including an evocative description of the bleak and dispiriting weather that sets the scene for the equally depressing visit. The development of the central idea continues with Hugo's growing frustration over the observation that his uncle's eyes can see but that 'Henrik himself saw nothing'. After trying to make a connection, Hugo acts violently. Immediately regretting his loss of control, he apologises.

It is only then, as Hugo turns to leave, that his uncle shows any recognition or reaction. That is when 'he saw, and he smiled'. The central idea has been developed deliberately and effectively to a strong climax and then to a sensitive resolution.

#### **Response 2**

This untitled response, set in the future, looks back to a fictional past, when people have been introduced to an optical implant, 'Optique', that augments reality so that the human mind can 'visually shape' what it sees. This is a first person description of the implant and its powers and an account of its dangers. The writer, the fictional Alexander Gallows, is writing a letter to request the removal of his implant because he wants to 'embrace reality'. He argues that Optique encourages people to see what they want, rather than allowing them to be challenged by seeing and drawing meaning from what really exists. For the actual reader, it provides a subtle and persuasive warning about how blind we may be to the unintended consequences in the future of many of the decisions and actions that we take.

The response demonstrates the use of words selected for their effect. The name of the device, 'Optique' is imaginative. The vocabulary varies, at times being quite conversational and so, appropriate to the discursive nature of this kind of letter. Some of the language is colloquial: 'It still blows me away to this day', 'it was the coolest idea ever', 'Your product is amazing'. Occasionally the writer addresses the reader directly: 'You know how parents can be; not wanting their child to miss out'. There is also an effective use of more formal vocabulary: 'an optical implant that augments reality', 'the procedure', 'the protagonist', 'a meaning ... that they can identify with viscerally', 'a stagnant imagination'. The response reflects an ability to use the right words in the right places.

#### **Response 3**

*Reality in Fantasy* suggests that we should not dismiss books such as the Harry Potter series and *Alice in Wonderland* as simply stories of magic and fantasy. They are also examples of books that provide lessons that we need to learn, about ourselves and about the real world. The discussion connects characters with real world figures and fictional actions with world events.

The discussion is concise and is clearly responsive. With its warning that we should not close our eyes to what we can learn from 'other worlds', it makes a strong connection to both the overall concept and the stimulus material.

#### **Response 4**

Seeing is believing is a thoughtful discussion about the importance of systematic observation in developing our scientific knowledge and understanding of the world. This is an exposition that points out the need for us to learn from past observation, measurement and experimentation. Copernicus, Faraday and Rutherford are cited as examples of those who 'had to see it to believe it', who broke new ground and so laid foundations for future work. It ends with the suggestion that the reader may be amongst those who go will further.

The exposition is easy to read, clear and fluent with an engaging mix of formality and informality. There is an admirable variety in sentence structures and in the use of a range of punctuation.

#### **Response 5**

*The library of looking-glasses* is a fictional description of people reading books and a reflection on what books can do for us. There is a poetic quality to this response. A boy is in a library reading a biography of 'the world's smartest man'. The book inspires him to dream of a better future for himself. A woman sits in her kitchen reading a romance which provides an escape from her 'loveless life'. A grandfather reads a story to a little girl, regretful that he can never be the hero to her that the main character is. A librarian observes each of these people when they come to the library, 'seeing a reflection of herself in each of them'. She sees the library as a 'looking-glass to her whole life' and acknowledges the importance of books.

The response has a clear structure and simple, logical sequencing. Each paragraph, except the final one, begins with 'In the corner of the world ...'. Each of the readers described is presented separately, in a vignette that brings the person to life by describing the obstacles or disappointments in their lives. They come to life in these short accounts. The paragraph about the librarian brings them together effectively. The final paragraph presents a comment on the possibilities provided by books. The final sentence restates the repeated introductions to the paragraphs with, 'In the corner of the world, someone just opened a book'.

#### **Response 1**

If You Could See Me, Just Maybe

As always, he went to visit him, like he did every Winter. It was almost ritualistic by now No one but him did it, but it was understandable, he supposed.

After all, he was the one who had found him in the first place. Two months of incessant searching, while the rest of *mem* sat around staring at the phone and dabbing dry tears off their cheeks.

Hugo shook his head and looked out the window of his train, at the petals of snow that fell peacefully onto the earth, one by one.

Her wound has shirt search anound his week and tightened in fixed joy putted his gloves on and curred his fingers wound his court

When the train came to a stop, Hugo didn't hesitate before jumping onto the platform and leaving the fuming train behind with his long strides. "Coordbaa" the mattered to ponoself and proceeded in this took on the show cordered water ago, statching for a bag to get him there.

The bleak weather never did anything for this place. People had the tendency to proclaim that it was 'beautiful in the Summer', but it was always said by those who had never been here, or stayed long enough to realise it was herer quite beautiful, in any season.

The weather didn't do much for his destination either. The Institute looked pleasand outwardly <u>;</u> clean and Welcoming, with flowers blossoming down the sidewalks (they were frozen now, the cold breath of winder having gotten the better of them), and as ense of quietness that permeated even to those outside.

Hugo trudged up the pathway, shoes clinging with wet mud. Show, he thought, always ends up ugly if left alone. or anything for that matter,

White how in the man As soon as he contered, a receptionist stood ap with a smart site to reges with the a doe's. "Can thelp you?" she asked, her voice a staccodo of cagunoos.

"Honey Chitistorias" The reptied first." Doctor Henrik LCome He section this time any year."

She beer switting ." Of course . He's waitings"

So, he looked better, Hugo concluded His wrinkles seemed less deep, and his hands weren 4 trembling anymore. The nurses had told him he was too still at times, but ... no, he was doing well otherwise.

"Uncle Henrik?."

But perhaps Hugo had expected too much, because the silenee that followed settled heavily in his chest, tightening

his twood almost to the that he choked out another, "Uncu Henrik? How are you?"

Still, nothing Hugo, with a crease between his eyes, stepped closer to rest \_ a \_ hand on the older man's shoulder. "Hey, unde Henrik. It's me."

Yet again, his uncle blinked. It was as if he simply could not see, or perceive anothing that surrounded him, everything that went on constantly around him... His eyes could see, yet the connection to his brain flickered on and off. the propression system tweather to dooring this eyes could see people, animals, breathtaking art work even - but Henrik himself son nothing. Everything was just a hum in the slow, unremitting drone of life.

"Mum passed away." Hugo's cycs traced the tiled floor of Henrik's own little room. "Your sistur, you know She died."

Nothing.

A cold wash of somershing washed down Hugo. from his had, down to his chest, down to his willed toes. Momentarily freezing, it turned red-hot, a blaze of - "She died, Henrik. Last week. She's gone ..." he shouted, hand coming to grab the hearest thing it could find, flinging it down into a crash, pieces littering the floor. Jagged pieces of china, into a mosaic on the cool, blue files: Henrik moved. Hugo couldn't see what he saw, but he saw him see it. His weathered face was suddenly grave - a still face, and not one that Hugo knew. His eyes twitched; a miniscule movement, but it was there. A ghost that only be could see, maybe.

His eyes were hot, too hot, and Hugo rubbed harshly at his face "I'm sorry That was mean" wearing he stooped down and picked up the broken china, cringing at the unsettlingly bright colours painted on. <u>His eyes</u> Stung. "I won't do that again."

Standing silently, broklen glass in hand, head bowed, Hugoswallowed. He turned around and took the three short steps to the door and turned the handle, when a sound pulled back his hand, claning at him to stop.

"Hew...hew...go." Henrik stored at him, eyes fixated on his figure.

He could see him. Hugo inhaled slowly, dragging every inch of air into his chest. His uncle could recognise him.

"Hey, unde Henrik."

As if to match Hugo's warring grin, Henrik crinkled his cycs. He saw, and he smiled. It's been twenty years since the modern world was introduced to 'Optique'. An optical implant that augments reality around you, so that the human mind can visually shape what it sees. It still blows me away to this day.

I remember seeing it on social media, way back when it first came out, and thinking it was the coolest idea ever. "Finally!" I thought to myself, "All my sci-fi childhood fantasies are being realised." I was about twelve when I got the procedure done because the school I was attending at the time made it compulsary. All their lessons from 2030-on were taught within the 'Optique' system, and boy was it mind-blowing.

You could see science come alive around you; the birth of a star, the physiology of a wooly mammoth, even the atomic structure of your school desk. Education became the most interesting aspect of my life, but the wonders of 'Optique' didn't stop there.

As you casually walked down the street, you saw people's projected avotans in any environment you could imagine. Sunsets could become nebulas and anyone could be becautiful. Neudless to say, the concept swept social media, and anyone with enough money to buy a smart-phone could afford to have the implant. The rewest generation now have the procedure done at birth. You know how parents can be; not wanting their child to miss out.

As I sit here on this park bench as a fully grown man, I only now realise that 'Optique' actually robbed us of something. That despite all the benefits this procedure has for society, were more disconnected than ever. There are all these people at the park with me, but all I'm seeing are projected husks of who they desire to be. Were all looking up at the same sunset, but each of us see a different visual overlay. We might as well not even be at the same park,

People read books to draw meaning from what's written on the page. Every person who reads the exact same book sees a completely different set of images. They imagine the protogonist slightly taller, or the weather a bit darker, or a murder more growne. In short, the meaning they drow from the words they see are completely individual to them. A meaning that is their own and that they can identify with viscerally.

'Optique' doesn't actually allow anyone to draw their own meaning from the world around them, because people are allowed to see what they want. It doesn't inhoduce new outer stimulus to the mind, so all the person does is stay within their own imagination a stagnant imagination. One that cannot morph and change as we see and experience new things. This 'augmented reality' we have is safe and comfortable, but that's it's biggest crime. The human mind needs to be challanged in an ever-changing dynamic environment to grow and develop artistically. Just like how a reader draws different meanings from the words he sees, a park-goer should be free to draw their own meaning from a sun set.

And because of this, I've decided to have my 'Optique' implant surgically removed. I miss the real world and all the gifts reality has to offer. Being so cut off from everyone else, in my own little imagined world, feels like we never share any genuine experiences. I want to see a real sun set without all the 'razzle dozzle' of virtual veality; one that I can draw my own meaning from. My friends and family will probably think me radical because of this decision, but I feel that its ressorary for me to continue my journey as a human being.

So please, I hope you'll accept my request for surgical removal of the 'Optique' virtual reality lens. Your product is amazing and I've enjoyed my time using it, but I can no longer bear not seeing things the way they're intended to be seen. It's my time to embrace reality.

Kind Regards, Alexander Callows

### the Reality in Fantasy

Fantasy novels have been widely considered as fantastical works that prove to be futile in educating us about our world. Upon first glance, this may seem true, what could we possibly learn from 'Harry Potter' and 'Alice in Wonderland' where magic and mysticism prevail? Harever, it is precisely, this 'first glance' that the danger lies. By refusing to open our eyes wider and delve deeper to the themes explored in these works, we effectively blindfold aurselves from the lessons we could learn from these 'other worlds'.

The Harry Potter' series by J.K. Rowling has been critically acclaimed as one of the most compelling fantasy works of air time. With its complex yet larable characters and thrilling storyline, it is no wonder that there is hardly a person who doesn't know their Hogwarts House. However, 'Harry Potter' is more than just a fairy tale; beneath the layers of witchcraft and wizardry lies a complex framework of themes that are relevant to our society. One of the most prevalent concepts is the unquenchable thirst for power, presented in the character of Voldemort. At first glance, Voldemort is the diche bad quy whose only purpose is to throw infinite obstacles in the benevolent hero's path. By '200ming in' with our mind's eye, we see that Voldemort is a dictator whose thirst for power clauds his rationality to the point where he sacrifices his own soul to obtain power. In our world, irrational power-hungry dictators are an uply reality. Leaders such as North Korea's Kim Jong Un continue to put thousands of lives in danger, making Voldemort's character a starkly accurate reflection of the 'real world'. Furthermore, Draco Malfay's hatred of non-pureblood witches and wizards is a mirror of society's often racist and homophobic views. By closing our eyes to the lessons we can learn from other worlds, we continue to ignore our own harsh reality.

'Alice in Wonderland' also provides insight into reality's struggles through the character of the Ked Queen. She is a meticulous perfectionist who judges others based on appearance and only allows unusual -looking people like her into her caurt. She makes irrational demands, such as condemning any unfortunate individual who dares oppose her to immediate capital punishment. Of caurse, perfectionism is not entirely a negative disposition and can be the very driving force to success. However, it is when perfectionism is coupled with a discriminatory mirdset that disaster arises. For example, Hitler's irrational leadership and thirst for perfection resulted in the senseless murder of millions of Jaus to create a "perfect" world of only Aryan people. His perception of the world was shrauded by an intense longing for perfection, much like the ked Queen. Consequently, modern society must open their blinded gaze to the needs of others rather than their own wants before lives are at stake once more.

By analysing the lessons presented in fantasy worlds, it is evident that many of 'unreality's' struggles are present in reality. From dictataships to racism, stories like 'Harry Potter' and 'Alice in Wonderland' provide much-needed insight into modern' society's turmoils. Rather than dismissing these novels as childish tales, we must widen our perspective and acknowledge that we as a society need to open our eyes to air own reality.

### Seeing Is Believing

Our knowledge of the world is built entirely on observations. Without them, we wouldn't be able to tell an aardvark from 9 zebra. Only through carefully planned observations are we able to prove or disprove our theories of how the world works. Building on past knowledge, we can formulate new ideas, and construct experiments to sort the wheat from the chaff.

Through observations, our view of the world can be quite literally turned upside down. The fundamental idea that the Earth revolves around the Sun was once considered heresy. However, through by regularly observing and measuring the movement of astronomical bodies, Copernicus was able to prove that all the planets of the Solar System do Indeed orbit the Sun, including the Earth. This idea now forms a contral tenet in our modern world, being taught to us from primary school. Why did Copernicus come up with such a novel, unheard of way to view our planet? Because he vertused to be testitisted by hearsay and untested ideas - he had to see it to be lieve it. And to and behold, when he actually took the required observations the previously held beliefs came crashing down, Like Copernicus, we need to be brave enough to test unproven theories, not just accept them as gaspel. Without observations or experimentation, theories consist of little more than old wives' tales.

Once a theory is proven, future generations are able to build upon it. The ancient Greeks were the first to observe static electricity, when someone rubbed a piece of amber on some wool. Eons later, the great experimentalist Michael Faraday built on those observations to create the first capacitor. At the time, his experiments may have seemed to have absolutely no real-world applications, when Faraday demonstrated his Faraday jar to a politicion, he was asked what electricity was useful for. "I don't know," he replied, "but I'm sure someday you'll tax it." How prophetic those words were! Hundreds of years later, we have supercomputers that can perform quadrillions of calculations per second, and they contain millions upon millions of mhiscule capacitors, crammed on to they circuit boards. Without the observations and experiments performed by these in the past, we would have to make do with watching a stone wall instead of a TV, just like the Flintstones. Today, scientific development is continuing at an upprecedented rate — thanks to the observations of those in the past. As Isaac Newton famously declared / "IF I have seen further than other men, then it is because I have stood on the shoulders of giants."

Sometimes there is no way to test a particular theory, and we must wait until technology develops sufficiently before we can prove or disprove it. And sometimes we must provisionally accept one theory in order to more torward, later alterning our outlook when it is superseded. IJ Thompson's theory of a 'plum pudding' alom was accepted at the time "it was formulated, for want of a better theory. Only after careful observation of the angle that alpha particles were deflected off a gold foil sheet was Ernest Rutherford able to present a better model - the planetary alom. Like Copernicus' heliocentric solar system, Rutherford's hypothesis that electrons revolve around the nucleus of the alom has become everyday knowledge. But first, it had to stand the test of observation and experimentation.

Somewhat paradoxically, the way we see the world is based on what we see. The concept that 99.99% of the volume of a rock is composed of empty space would have been incomprehensible to Anotothe, as would the idea of a supercomputer or TV. However through carefully planned experiments, which build on the observations of others in the past, we have come to accept that it is so. The Slowly but surely, we have built a clearer picture of the

wolld around us. There are still gaps in our knowledge that need to be filled, and through observation we can continue to create a crisper, more detailed picture of our incredible world. Perhaps you will help fill some of those blank pieces of convas. 4

**Response 5** 

he library of looking-glasses In the corner of the world, there is an overlooked library. This library holds many stories and dreams of people. In this library, sitting at the clarkest table, rearing nothing but baggy rags, is CI boy. the library pays him any attention one in No even looks at his direction, but it does not is too focused hù matter to him. He 00 book which is the looking-glass to his future. He is poor and unloved boy holding a biography on a world's smartest man. The boy devourors every word in his sight and dreams about how one day, he too will matter and people looking at his biography. He dreams different future than what everyone expects him. The boy stays there from down until dusk Viewing his future. In the corner of the world, there is a woman sitting in her white and bland kitchen, grasping at her romance novel. There is not a spec of Colour in the room or any photos hanging on the

Wall to be seen. The woman does not mind though because all the colour and pictures she wants her hands. She reads every word and See is in everything in the novel as if she Sels Wo man in distress. The book distracts her her lonely and loveless life. The woman sees the book as her escape. She views the ch arg cter herself, a woman in desperate need of being Qs by a strong man who is going to sweep saved

to extend his hire of the same book. The Woman understands those that come into her world as she sees a reflection of herself in each of them. She sees herself in the boy because she too wanted to be important, she sees herself is woman as she is lonely as well since her husband passed and he was barren. The old man is a reflection of her regret, for he has had children and fived a loving life. To her, the library is the looking-glass to her whole life. Books allow people to see things. They allow us to see what we really want. They can help us see a pathway to greatness or let us see what our hearts really want and to feel loved. Books allow is to see the life we wish We had or they allow other people to observe who we really are. In the corner of the world, someone Just opened a book.

# **Relative worth of each subtest**

# Relative worth of parts of the QCS Test

Paper		Worth	Comment			
1	WT	68	Two grades on each of the five substantive criteria, plus two judgments on Length			
2	MC I	50	50 items of equal worth			
3	SR	67	16 items with up to five grades each			
4	MC II	50	50 items of equal worth			
	Total	235				

### Worth SR paper

Unit	ltem number	Grade awarded and Code						Marth A	
Unit		Α	В	С	D	E	N	0	worth $\frac{1}{2}$
One	1	3	2	1					1.5
Two	2	3	2	1					1.5
TWO	3	7	5	3	1				3.5
Three	4	6	5	3	1				3
Intee	5	9	7	5	2				4.5
Four	6	4	2	1					2
rour	7	8	6	3	1				4
Five	8	8	7	4	1				4
Civ	9	10	8	5	3	1			5
SIX	10	10	8	5	3	1			5
Coven	11	10	8	5	2				5
Seven	12	11	9	6	3	1			5.5
Fight	13	10	8	5	2				5
Eight	14	12	10	7	3	2			6
Nino	15	11	9	6	4	2			5.5
Nine	16	12	10	6	4	2			6
									$\Sigma \left(\frac{A}{2}\right) = 67$

## **Deemed CCEs and QCS Test items**

Tables showing CCEs tested within the MC and SR subtests are presented earlier in this document. One or more CCEs appear next to each item (or unit). What does this mean?

The QCS Test assesses students in terms of the common elements of the Queensland senior curriculum: analysing and synthesising, evaluating, comparing, interrelating ideas, graphing, estimating, compiling statistics, and so on. There is not, however, a simplistic match of CCEs and individual items in the QCS Test — there is not exactly one item for each CCE or exactly one CCE for each item. Some CCEs are obviously widely present — interpreting words and symbols, analysing and interpreting the meaning of diagrams, justifying. Other CCEs, such as graphing, may be absent from all but one or two specific items.

The CCE given for an item is not, therefore, a claim that this is the only skill required to complete this item successfully. Nor is it a claim that the CCE should be understood as meaning only the skills apparently required by the item. There may even seem to be ways of completing the item successfully that do not appear to involve the given CCE/s.

Listing CCEs against items provides information about how the test constructors view each item in the context of the particular QCS Test.

### Balance of the QCS Test in terms of CCEs

Listing CCEs against items may suggest that the balance of a particular QCS Test or a series of QCS Tests can be assessed by tallying the number of times each CCE is listed.

It is wrong to expect such a tally to show an equal number of items for each of the 49 CCEs because they are not, and were not developed to be, either equal or equivalent, or in any other sense, interchangeable.

A reasonable assessment of the balance of the QCS Test will take into account that:

- the 49 CCEs are not equal
- no CCE is trivial
- some CCEs are more substantial than others
- no single CCE fails to occur in the Queensland senior curriculum
- some CCEs are diffused generally across a wide range of items (and are therefore not listed frequently)
- some CCEs can only be tested through particular kinds of items that require a substantial proportion of the total test item (and therefore these CCEs will not occur very often).

# Appendixes

### **Appendix 1: The 49 Common Curriculum Elements**

### **Descriptors and Notes**

- Note: The numbering system given for the testable Common Curriculum Elements is that used within the QCS Test Unit. Readers should not be perturbed to find that, while the list is in numerical order, there are numbers missing. All 49 elements appear in the list.
- **1** Recognising letters, words and other symbols

#### 2 Finding material in an indexed collection:

Note: Examples of an indexed collection are — a dictionary, an encyclopaedia, a library catalogue, a road map, an art catalogue, an instruction booklet, a share register, a classified advertisement column.

#### **3** Recalling/remembering:

Note: Consult Test Specifications Section 2.3 to establish what might reasonably be regarded as assumed knowledge, i.e. 'an elementary level of general knowledge, and a knowledge of vocabulary and mathematical operations at a level of sophistication consistent with a sound general Year 10 education ... basic arithmetic operations involved in calculation, also include fundamental mathematical concepts such as simple algebra, percentage, ratio, area, angle and power of ten notation.'

- 4 Interpreting the meaning of words or other symbols
- 5 Interpreting the meaning of pictures/illustrations
- 6 Interpreting the meaning of tables or diagrams or maps or graphs
- 7 Translating from one form to another:

Expressing information in a different form

Note: Translation could involve the following forms: verbal information (in English) algebraic symbols graphs mathematical material given in words symbolic codes (e.g. Morse code, other number systems) pictures diagrams maps.

- 9 Using correct spelling, punctuation, grammar
- 10 Using vocabulary appropriate to a context

#### 11 Summarising/condensing written text:

Presenting essential ideas and information in fewer words and in a logical sequence

Note: Simply listing the main points in note form is not acceptable, nor is 'lifting' verbatim from the given passage.

#### 12 Compiling lists/statistics:

Systematically collecting and counting numerical facts or data

#### 13 Recording/noting data:

Identifying relevant information and then accurately and methodically writing it down in one or more predetermined categories

*Note: Examples of predetermined categories are – female/male; odd/even; mass/acceleration.* 

#### 14 Compiling results in a tabular form:

Devising appropriate headings and presenting information using rows and/or columns

#### 15 Graphing:

Note: Students will be required to construct graphs as well as to interpret them (see CCE 6).

#### 16 Calculating with or without calculators

#### 17 Estimating numerical magnitude:

Employing a rational process (such as applying an algorithm, or comparing by experience with known quantities or numbers) to arrive at a quantity or number that is sufficiently accurate to be useful for a given purpose

#### 18 Approximating a numerical value:

Employing a rational process (such as measuring or rounding) to arrive at a quantity or number that is accurate to a specified degree

#### 19 Substituting in formulae

#### 20 Setting out/presenting/arranging/displaying

#### 21 Structuring/organising extended written text

#### 22 Structuring/organising a mathematical argument:

Generating and sequencing the steps that can lead to a required solution to a given mathematical task

#### 26 Explaining to others:

Presenting a meaning with clarity, precision, completeness, and with due regard to the order of statements in the explanation

#### 27 Expounding a viewpoint:

Presenting a clear convincing argument for a definite and detailed opinion

#### 28 Empathising:

Appreciating the views, emotions and reactions of others by identifying with the personalities or characteristics of other people in given situations

#### 29 Comparing, contrasting:

Comparing: displaying recognition of similarities and differences and recognising the significance of these similarities and differences

Contrasting: displaying recognition of differences by deliberate juxtaposition of contrary elements

#### 30 Classifying:

Systematically distributing information/data into categories that may be either presented to, or created by, the student

#### 31 Interrelating ideas/themes/issues

# **32 Reaching a conclusion which is necessarily true provided a given set of assumptions is true:** Deducing

#### **33** Reaching a conclusion which is consistent with a given set of assumptions:

Inferring

#### 34 Inserting an intermediate between members of a series:

Interpolating

#### 35 Extrapolating:

Logically extending trends or tendencies beyond the information/data given

#### 36 Applying strategies to trial and test ideas and procedures

#### 37 Applying a progression of steps to achieve the required answer:

Making use of an algorithm (that is already known by students or that is given to students) to proceed to *the* answer

#### 38 Generalising from information:

Establishing by inference or induction the essential characteristics of known information or a result

#### 41 Hypothesising:

Formulating a plausible supposition to account for known facts or observed occurrences The supposition is often the subject of a validation process.

#### 42 Criticising:

Appraising logical consistency and/or rationally scrutinising for authenticity/merit Note: also critiquing — critically reviewing

#### 43 Analysing:

Dissecting to ascertain and examine constituent parts and/or their relationships

#### 44 Synthesising:

Assembling constituent parts into a coherent, unique and/or complex entity

The term 'entity' includes a system, theory, communication, plan, set of operations.

#### 45 Judging/evaluating:

Judging: applying both procedural and deliberative operations to make a determination

Procedural operations are those that determine the relevance and admissibility of evidence, whilst deliberative operations involve making a decision based on the evidence.

Evaluating: assigning merit according to criteria

#### 46 Creating/composing/devising

#### 48 Justifying:

Providing sound reasons or evidence to support a statement

Soundness requires that the reasoning is logical and, where appropriate, that the premises are likely to be true.

#### 49 Perceiving patterns:

Recognising and identifying designs, trends and meaningful relationships within text

#### 50 Visualising:

Note: Examples of aspects of this element that might be tested include: visualising spatial concepts (e.g. rotation in space) visualising abstractions in concrete form (e.g. kinetic theory — the movement of molecules) visualising a notion of a physical appearance from a detailed verbal description.

#### 51 Identifying shapes in two and three dimensions

#### 52 Searching and locating items/information:

Note: This element as it occurs in syllabuses usually refers to field work. As these conditions are plainly impossible to reproduce under QCS Test conditions, testing can only be performed at a 'second order' level.

In the sense of looking for things in different places, 'searching and locating items/information' may be taken to include quoting, i.e. repeating words given in an extract in the stimulus material.

#### 53 Observing systematically:

Note: This element as it occurs in syllabuses usually refers to laboratory situations. As these conditions are plainly impossible to reproduce under QCS Test conditions, testing can only be performed at a 'second order' level.

#### 55 Gesturing:

Identifying, describing, interpreting or responding to visual representations of a bodily or facial movement or expression, that indicates an idea, mood or emotion

Note: This element as it occurs in syllabuses refers to acting and other forms of movement. It is possible to test only the interpretation of movement and expression. It is understood that there are cultural variations relating to the meanings of particular gestures.

#### 57 Manipulating/operating/using equipment:

Displaying competence in choosing and using an implement (in actual or representational form) to perform a given task effectively

#### 60 Sketching/drawing:

Sketching: executing a drawing or painting in simple form, giving essential features but not necessarily with detail or accuracy

Drawing: depicting an object, idea or system pictorially, such as in a clearly defined diagram or flowchart.

*Note: Sketching/drawing does not include the representation of numerical data as required in CCE 14 and CCE 15.* 

# Appendix 2: CCEs

1	α	Recognising letters, words and other symbols				
2	α	Finding material in an indexed collection				
3	α	Recalling/remembering				
4	α	Interpreting the meaning of words or other symbols				
5	α	Interpreting the meaning of pictures/illustrations				
6	α	Interpreting the meaning of tables or diagrams or maps or graphs				
7	α	Translating from one form to another				
9	π	Using correct spelling, punctuation, grammar				
10	π	Using vocabulary appropriate to a context				
11	π	Summarising/condensing written text				
12	α	Compiling lists/statistics				
13	α	Recording/noting data				
14	π	Compiling results in a tabular form				
15	π	Graphing				
16	¢	Calculating with or without calculators				
17	¢	Estimating numerical magnitude				
18	¢	Approximating a numerical value				
19	¢	Substituting in formulae				
20	π	Setting out/presenting/arranging/displaying				
21	β	Structuring/organising extended written text				
22	β	Structuring/organising a mathematical argument				
26	π	Explaining to others				
27	π	Expounding a viewpoint				
28	α	Empathising				
29	β	Comparing, contrasting				
30	β	Classifying				
31	β	Interrelating ideas/themes/issues				
32	θ	Reaching a conclusion which is necessarily true provided a given set of assumptions is true				
33	θ	Reaching a conclusion which is consistent with a given set of assumptions				
34	θ	Inserting an intermediate between members of a series				
35	θ	Extrapolating				
36	β	Applying strategies to trial and test ideas and procedures				
37	¢	Applying a progression of steps to achieve the required answer				
38	β	Generalising from information				
41	θ	Hypothesising				
42	θ	Criticising				
43	θ	Analysing				
44	θ	Synthesising				
45	θ	Judging/evaluating				
46	π	Creating/composing/devising				
48	θ	Justifying				
49	β	Perceiving patterns				
50	β	Visualising				
51	α	Identifying shapes in two and three dimensions				
52	α	Searching and locating items/information				
53	α	Observing systematically				
55	α	Gesturing				
57	α	Manipulating/operating/using equipment				
60	π	Sketching/drawing				

# Appendix 3: CCEs grouped by baskets

α	Comprehend and collect			
1	Recognising letters, words and other symbols			
2	Finding material in an indexed collection			
3	Recalling/remembering			
4	Interpreting the meaning of words or other symbols			
5	Interpreting the meaning of pictures/illustrations			
6	Interpreting the meaning of tables or diagrams or maps or graphs			
7	Translating from one form to another			
12	Compiling lists/statistics			
13	Recording/noting data			
28	Empathising			
51	Identifying shapes in two and three dimensions			
52	Searching and locating items/information			
53	Observing systematically			
55	Gesturing			
57	Manipulating/operating/using equipment			
β	Structure and sequence			
21	Structuring/organising extended written text			
22	Structuring/organising a mathematical argument			
29	Comparing, contrasting			
30	Classifying			
31	Interrelating ideas/themes/issues			
36	Applying strategies to trial and test ideas and procedures			
38	Generalising from information			
49	Perceiving patterns			
50	Visualising			
θ	Analyse, assess and conclude			
32	Reaching a conclusion which is necessarily true provided a given set of assumptions is true			
32 33	Reaching a conclusion which is necessarily true provided a given set of assumptions is true Reaching a conclusion which is consistent with a given set of assumptions			
32 33 34	Reaching a conclusion which is necessarily true provided a given set of assumptions is true         Reaching a conclusion which is consistent with a given set of assumptions         Inserting an intermediate between members of a series			
32 33 34 35	Reaching a conclusion which is necessarily true provided a given set of assumptions is true Reaching a conclusion which is consistent with a given set of assumptions Inserting an intermediate between members of a series Extrapolating Unertheories			
32 33 34 35 41	Reaching a conclusion which is necessarily true provided a given set of assumptions is true         Reaching a conclusion which is consistent with a given set of assumptions         Inserting an intermediate between members of a series         Extrapolating         Hypothesising         Cubicities			
32 33 34 35 41 42	Reaching a conclusion which is necessarily true provided a given set of assumptions is true         Reaching a conclusion which is consistent with a given set of assumptions         Inserting an intermediate between members of a series         Extrapolating         Hypothesising         Criticising			
32 33 34 35 41 42 43	Reaching a conclusion which is necessarily true provided a given set of assumptions is true         Reaching a conclusion which is consistent with a given set of assumptions         Inserting an intermediate between members of a series         Extrapolating         Hypothesising         Criticising         Analysing         Surtheorizing			
32 33 34 35 41 42 43 44	Reaching a conclusion which is necessarily true provided a given set of assumptions is true         Reaching a conclusion which is consistent with a given set of assumptions         Inserting an intermediate between members of a series         Extrapolating         Hypothesising         Criticising         Analysing         Synthesising         Ludging (avaluating)			
32 33 34 35 41 42 43 44 45 48	Reaching a conclusion which is necessarily true provided a given set of assumptions is true         Reaching a conclusion which is consistent with a given set of assumptions         Inserting an intermediate between members of a series         Extrapolating         Hypothesising         Criticising         Analysing         Synthesising         Judging/evaluating			
32 33 34 35 41 42 43 44 45 48	Reaching a conclusion which is necessarily true provided a given set of assumptions is true         Reaching a conclusion which is consistent with a given set of assumptions         Inserting an intermediate between members of a series         Extrapolating         Hypothesising         Criticising         Analysing         Synthesising         Judging/evaluating         Justifying			
32 33 34 35 41 42 43 44 45 48 π	Reaching a conclusion which is necessarily true provided a given set of assumptions is true         Reaching a conclusion which is consistent with a given set of assumptions         Inserting an intermediate between members of a series         Extrapolating         Hypothesising         Criticising         Analysing         Synthesising         Judging/evaluating         Justifying         Create and present			
32 33 34 35 41 42 43 44 45 48 π 9 10	Reaching a conclusion which is necessarily true provided a given set of assumptions is true         Reaching a conclusion which is consistent with a given set of assumptions         Inserting an intermediate between members of a series         Extrapolating         Hypothesising         Criticising         Analysing         Synthesising         Judging/evaluating         Justifying         Create and present         Using correct spelling, punctuation, grammar			
32 33 34 35 41 42 43 44 45 48 π 9 10	Reaching a conclusion which is necessarily true provided a given set of assumptions is true         Reaching a conclusion which is consistent with a given set of assumptions         Inserting an intermediate between members of a series         Extrapolating         Hypothesising         Criticising         Analysing         Synthesising         Judging/evaluating         Justifying         Create and present         Using correct spelling, punctuation, grammar         Using vocabulary appropriate to a context         Summarising/condensing written text			
32         33         34         35         41         42         43         44         45         48 <b>π</b> 9         10         11         14	Reaching a conclusion which is necessarily true provided a given set of assumptions is true         Reaching a conclusion which is consistent with a given set of assumptions         Inserting an intermediate between members of a series         Extrapolating         Hypothesising         Criticising         Analysing         Synthesising         Judging/evaluating         Justifying         Create and present         Using correct spelling, punctuation, grammar         Using vocabulary appropriate to a context         Summarising/condensing written text         Compiling results in a tabular form			
32           33           34           35           41           42           43           44           45           48           π           9           10           11           14           15	Reaching a conclusion which is necessarily true provided a given set of assumptions is true         Reaching a conclusion which is consistent with a given set of assumptions         Inserting an intermediate between members of a series         Extrapolating         Hypothesising         Criticising         Analysing         Synthesising         Judging/evaluating         Justifying         Create and present         Using correct spelling, punctuation, grammar         Using vocabulary appropriate to a context         Summarising/condensing written text         Compiling results in a tabular form			
32           33           34           35           41           42           43           44           45           48           π           9           10           11           14           15           20	Reaching a conclusion which is necessarily true provided a given set of assumptions is true         Reaching a conclusion which is consistent with a given set of assumptions         Inserting an intermediate between members of a series         Extrapolating         Hypothesising         Criticising         Analysing         Synthesising         Judging/evaluating         Justifying         Create and present         Using correct spelling, punctuation, grammar         Using vocabulary appropriate to a context         Summarising/condensing written text         Compiling results in a tabular form         Graphing			
32         33         34         35         41         42         43         44         45         48 <b>π</b> 9         10         11         14         15         20         26	Reaching a conclusion which is necessarily true provided a given set of assumptions is true         Reaching a conclusion which is consistent with a given set of assumptions         Inserting an intermediate between members of a series         Extrapolating         Hypothesising         Criticising         Analysing         Synthesising         Judging/evaluating         Justifying         Create and present         Using correct spelling, punctuation, grammar         Using vocabulary appropriate to a context         Summarising/condensing written text         Compiling results in a tabular form         Graphing         Setting out/presenting/arranging/displaying         Explaining to others			
$\begin{array}{c} 32\\ 33\\ 34\\ 35\\ 41\\ 42\\ 43\\ 44\\ 45\\ 48\\ \pi\\ 9\\ 10\\ 11\\ 14\\ 15\\ 20\\ 26\\ 27\\ \end{array}$	Reaching a conclusion which is necessarily true provided a given set of assumptions is true         Reaching a conclusion which is consistent with a given set of assumptions         Inserting an intermediate between members of a series         Extrapolating         Hypothesising         Criticising         Analysing         Synthesising         Judging/evaluating         Justifying         Create and present         Using correct spelling, punctuation, grammar         Using vocabulary appropriate to a context         Summarising/condensing written text         Compiling results in a tabular form         Graphing         Setting out/presenting/arranging/displaying         Explaining to others         Expounding a viewpoint			
32           33           34           35           41           42           43           44           45           48           π           9           10           11           14           15           20           26           27           46	Reaching a conclusion which is necessarily true provided a given set of assumptions is true         Reaching a conclusion which is consistent with a given set of assumptions         Inserting an intermediate between members of a series         Extrapolating         Hypothesising         Criticising         Analysing         Synthesising         Judging/evaluating         Justifying         Create and present         Using correct spelling, punctuation, grammar         Using vocabulary appropriate to a context         Summarising/condensing written text         Compiling results in a tabular form         Graphing         Setting out/presenting/arranging/displaying         Explaining to others         Expounding a viewpoint         Creating/composing/devising			
32           33           34           35           41           42           43           44           45           48           π           9           10           11           14           15           20           26           27           46           60	Reaching a conclusion which is necessarily true provided a given set of assumptions is true         Reaching a conclusion which is consistent with a given set of assumptions         Inserting an intermediate between members of a series         Extrapolating         Hypothesising         Criticising         Analysing         Synthesising         Judging/evaluating         Justifying         Create and present         Using correct spelling, punctuation, grammar         Using vocabulary appropriate to a context         Summarising/condensing written text         Compiling results in a tabular form         Graphing         Setting out/presenting/arranging/displaying         Expounding a viewpoint         Creating/composing/devising			
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32         33         34         35         41         42         43         44         45         48         π         9         10         11         14         15         20         26         27         46         60         φ         16	Reaching a conclusion which is necessarily true provided a given set of assumptions is true         Reaching a conclusion which is consistent with a given set of assumptions         Inserting an intermediate between members of a series         Extrapolating         Hypothesising         Criticising         Analysing         Synthesising         Judging/evaluating         Judging/evaluating         Justifying         Create and present         Using correct spelling, punctuation, grammar         Using vocabulary appropriate to a context         Summarising/condensing written text         Compiling results in a tabular form         Graphing         Setting out/presenting/arranging/displaying         Expounding a viewpoint         Creating/composing/devising         Sketching/drawing         Apply techniques and procedures         Calculating with or without calculators			
32         33         34         35         41         42         43         44         45         48         7         9         10         11         14         15         20         26         27         46         60         φ         16         17	Reaching a conclusion which is necessarily true provided a given set of assumptions is true         Reaching a conclusion which is consistent with a given set of assumptions         Inserting an intermediate between members of a series         Extrapolating         Hypothesising         Criticising         Analysing         Synthesising         Judging/evaluating         Judging/evaluating         Justifying         Create and present         Using correct spelling, punctuation, grammar         Using vocabulary appropriate to a context         Summarising/condensing written text         Compiling results in a tabular form         Graphing         Setting out/presenting/arranging/displaying         Expounding a viewpoint         Creating/composing/devising         Sketching/drawing         Apply techniques and procedures         Calculating with or without calculators         Estimating numerical magnitude			
32         33         34         35         41         42         43         44         45         48 <b>π</b> 9         10         11         14         15         20         26         27         46         60 <b>φ</b> 16         177         18	Reaching a conclusion which is necessarily true provided a given set of assumptions is true         Reaching a conclusion which is consistent with a given set of assumptions         Inserting an intermediate between members of a series         Extrapolating         Hypothesising         Criticising         Analysing         Synthesising         Judging/evaluating         Judging/evaluating         Justifying         Create and present         Using correct spelling, punctuation, grammar         Using vocabulary appropriate to a context         Summarising/condensing written text         Compiling results in a tabular form         Graphing         Setting out/presenting/arranging/displaying         Expounding a viewpoint         Creating/composing/devising         Sketching/drawing         Apply techniques and procedures         Calculating with or without calculators         Estimating numerical magnitude         Approximating a numerical value			
32         33         34         35         41         42         43         44         45         48 <b>π</b> 9         10         11         14         15         20         26         27         46         60 <b>φ</b> 16         17         18         19	Reaching a conclusion which is necessarily true provided a given set of assumptions is true         Reaching a conclusion which is consistent with a given set of assumptions         Inserting an intermediate between members of a series         Extrapolating         Hypothesising         Criticising         Analysing         Synthesising         Judging/evaluating         Judging/evaluating         Justifying         Create and present         Using correct spelling, punctuation, grammar         Using vocabulary appropriate to a context         Summarising/condensing written text         Compiling results in a tabular form         Graphing         Setting out/presenting/arranging/displaying         Expounding a viewpoint         Creating/composing/devising         Sketching/drawing         Apply techniques and procedures         Calculating with or without calculators         Estimating numerical magnitude         Approximating a numerical value         Substituting in formulae			

# Appendix 4: Glossary of terms used in relation to the QCS Test

*acceptable minimum standards*: the description of a marking process whereby markers are required to use their assessment skills to interpret a student response and match it to a standard in each performance domain being tested by the item. Predetermined trade-offs are already incorporated. Markers then award a grade for that performance domain for that item.

*adjacent grades*: on a short response marking scheme, a pair of available grades in direct proximity, e.g. *A* and *B*, *D* and *E*, *N* and *O* (see *grade*)

**assumed knowledge:** the benchmark of students' required learning in terms of QCS testing; taken to be the possession of both an elementary level of general knowledge and a knowledge of vocabulary and mathematical operations at a level of sophistication consistent with that of a student with a sound general Year 10 education

batched items: a group of items which relate to the same stimulus material

*built-in trade-off*: a property of a marking scheme that ensures that the performance domains contribute to the grade in a manner reflective of their hierarchical position in that item

*calibration:* a routine process aimed at controlling reliability loss by removing irregularities in a marker's judgment 'gauge' before that marker is free to 'gauge standards', i.e. to mark

*check marking*: a process involving scrutiny by marking supervisors (WT), immersers (SR) and unit managers (SR) of grades awarded by markers

*closed response item*: a short response item which involves the student in the production of an answer and requires the marker to assess the accuracy of the response. This type of item usually produces a definite number of response types.

*common curriculum element (CCE)*: one of the 49 generic skills that are common to at least two subjects in the Queensland senior curriculum, testable in the current format of the QCS Test, and within the learning opportunities of a high proportion of students

*creditable response*: a response (to a short response item) that is awarded one of the available grades, *A* to *E*, and thus attracts credit

*criterion (also called basket)*: macroskill. The QCS Test measures achievement in five criteria, each of which is symbolised by a letter of the Greek alphabet:

- $\alpha$  comprehend and collect
- **β** structure and sequence
- $\theta$  analyse, assess and conclude
- $\pi$  create and present
- $\phi$  apply techniques and procedures.

The 49 common curriculum elements can be distributed among these five criteria, each criterion representing a set of related CCEs.

*cue*: an instruction attached to a short response item, situated next to the space provided for the student response. The cue gives students a clear idea of what is required of them, sometimes providing essential further information on how to respond.

*curriculum element*: identifiable coherent activity specified by a syllabus as relevant to the pursuit of the aims and objectives of that syllabus

*denotation*: descriptor and/or notes related to a CCE, which represent the meaning of that CCE for the purpose of the QCS Test. Denotations are circulated to the appropriate audiences.

descriptor: see standard descriptor

*desirable feature*: item-specific characteristic of a student's short response that demonstrates achievement and therefore contributes to the determination of attainment in a particular performance domain

*dimension*: one of nine defined characteristics of a test item. Each item can be classified in terms of each of these nine dimensions. This classification is used for assessing range and balance in the test.

*discrepant marker*: a marker whose marking differences (compared with other markers) are either not acceptably small or not apparently random

*dissonant markings*: binders whose items have been given significantly different marks by different markers

**essential equipment**: 'tools of the trade' listed in the *Student Information Bulletin* and in *Directions* on the cover of the testpaper, and which the student must provide in order to complete the test, namely:

- pens (black ink)
- pencil (for drawing and sketching, but not for writing)
- protractor
- drawing compass
- eraser
- coloured pencils
- ruler
- calculator with spare batteries.

*exemplar*: example of a response included in the marking scheme as an indication to markers of the acceptable standard for the award of an *A*-grade

*flyer*: a written mechanism by which unit managers and immersers can communicate to markers any decisions regarding the treatment of scripts made after marking has commenced

*footnote*: additional information provided at the end of the relevant piece of stimulus material, with reference to the stimulus material via a superscript. It may take various forms such as a commentary on word usage or sourcing of an extract.

*gloss*: definition of a term that students are not expected to know. When substantive vocabulary of a high level of sophistication, whose meaning cannot be determined from the context is used, a meaning or explanation is provided at the end of the relevant passage. Reference to the passage is made via a superscript.

*grade (response grade)*: a measure of performance on a short response item on the basis of a student's response. Grades are consecutive letters, with *A* denoting the grade pertaining to the highest performance level. The number of grades may vary from item to item. The lowest available grade identifies the threshold for creditable performance.

*hierarchy*: a ranking of the performance domains of an item, indicating their relative contributions to the award of the grades

*immerser (SR)*: a person who trains markers to apply the prescribed marking schemes and standards for each item; conducts check marking and refocusing sessions as determined by quality control; supports markers with advice on marking; and maintains the standards of the marking

*immersion*: instruction to acquaint markers with details and subtleties of the marking schemes for the items in an allocated unit, discussion of common response types and marking of real student responses

immersion notes: unit-specific script prepared by immersers for use in training markers

*immersion session*: a set period of time when immersers train markers in the marking scheme and provide them with guided assistance in practice marking. Verbal instructions which form part of the marking prescription may be given at this time.

*incline of difficulty*: the sequencing of units within a testpaper in such a way that units tend to become progressively more difficult towards the end of the testpaper

*introduction*: a block of text at the beginning of a unit that, when necessary, gives a reference for the stimulus material and items to follow

item: comprises the stem, cue and response area

*item-specific*: pertaining to a particular item. Usually, item-specific documents contain information that can only pertain to one of the items on a particular subtest.

*item writer*: a person who writes and develops items for inclusion in the itembank. Test specifications are heeded in the writing of items.

*key term*: one of a list of verbs used in the stems of short response items as commands or task setters, and for which clear definitions are appropriately circulated to students and markers for the purposes of the QCS Test. The key terms include the following:

account for	draw (cf. sketch)	illustrate/exemplify	show (calculations)
approximate	estimate	indicate	sketch (cf. draw)
argue	evaluate	justify	state
comment on	explain	list	substitute in
compare	expound	outline (in words)	suggest
contrast	express	present	summarise
derive	extrapolate	prove	transcribe
describe	find	rank	verify
determine	generalise	refer	
discuss	identify	quote	

*line numbers*: numbers situated in the left-hand margin of some passages of stimulus material to help students locate details mentioned in associated items

*marker training*: a process which occurs during the days immediately preceding the marking proper, and consists of a pretraining/administration session and an immersion session in an allocated marking unit, together with preliminary marking and feedback sessions

*marking history*: a collection of marking schemes for all items in the unit in which a marker is trained to mark, together with the marker manual. Running rules and flyers are sometimes added to the folio during the course of the marking operation.

*marking grid*: an item-specific sheet, accompanying the marking scheme, designed to assist markers' decision making when the application of descriptors is particularly complex. The use of such grids may be either compulsory or non-compulsory.

*marking pool*: the total group of markers selected from the register of markers to be involved in the marking operation for a given year

*marking scheme*: the item-specific criteria and standards schema from which markers can determine grades; the marking scheme may not include all of the instructions to the markers. Most marking schemes are presented as a table in which the cells of each column give the descriptors of standards for the grade shown in that column's heading.

*marking supervisor (WT)*: a person who trains markers to apply the prescribed criteria and standards; conducts check marking and refocusing sessions as determined by quality control; supports markers with advice on marking; and maintains the standards of marking.

*marking unit*: a collection of items that is to be marked using a single marksheet. An individual marking unit may include items from more than one test unit. The items of an individual test unit may be spread over more than one marking unit.

marksheet: a pre-printed sheet markers use to record information about marking

*mathematical operations*: at the level of QCS testing, the basic operations involved in calculation (addition, subtraction, multiplication, division), as well as fundamental mathematical concepts such as simple algebra, percentage, ratio, area, angle, and power of ten notation
*miniature SR paper*: an A3 sheet containing abbreviated versions of the items in the testbook. Students may retain this at the conclusion of the test.

*model response*: an example of a response that demonstrates the highest level of performance and would invariably be awarded the highest grade

*monitoring (marker monitoring)*: comparison of markers (many pairings) to identify responses to be remarked, markers who require refocusing, and aspects of marking schemes which need attention during calibration

**non-contributory**: term applied to the grade given to a short response item when a response is unintelligible or does not satisfy the requirements for any other grade (*N*), or when the item is omitted (*O*)

*notes*: a note on a marking scheme that clarifies features of the item; defines, qualifies or explains terms used in the descriptors; and gives additional information about the treatment of particular types of response

*omit*: label given to that category of response to a test item where the student fails to provide a response, i.e. the student makes no apparent attempt to respond to the task set and leaves the response space completely blank

*open-ended response item*: a short response item that involves the student in generative thinking and requires the marker to assess the quality of the response. No exhaustive list of desirable features can be identified *a priori* to describe a given response type.

*optional equipment*: 'tools of the trade' (other than *essential equipment*) normally used in a course of study, which students may choose to provide for the test, e.g.

- set square
- correction fluid
- sharpener.

*pathological response*: one of the 2% or less of different or unpredictable responses not covered directly by the descriptors in the marking scheme, and discovered after marking commences

*performance domain/s*: common curriculum element/s tested by a particular item. For items that are associated with more than one CCE, the influence of each CCE is clearly evident in the marking scheme.

*practice effect*: an increase in marking speed as the marker gains experience in reading student responses and grading them with the marking scheme

*practice set*: booklet of authentic student responses given to markers within an immersion session to reinforce learning

*preliminary marking*: mandatory initial session of actual marking conducted under normal conditions with grades to stand. Preliminary marking usually occurs immediately after immersion and before the feedback session.

primary marking: the totality of the first two independent markings of all items on the testpaper

The number of marker judgments in the primary marking is  $2N \sum_{i=1}^{N} p_i$ , where N = number of students,

n = number of items on the testpaper, and  $p_i =$  number of performance domains for the *i* th item.

*refocusing*: a one-on-one counselling session between an immerser and a marker who is experiencing problems with his/her marking, as identified by quality-control procedures

*referee marking*: an independent third marking of a student response, which occurs when two independent markers disagree to an extent that is regarded as significant for that item

registered marker: a marker who has successfully completed a recruitment session

*reliability*: the degree to which measurements are consistent, dependable or repeatable; i.e. the degree to which they are free of errors

*reliability of grades*: the degree to which there is marker agreement as to the grade awarded (although some grades are truly borderline)

*response*: the student's work on an item as communicated to the marker. In writing, drawing, calculating and so on in the case of a short response item. By blackening a circle corresponding to the selected response option in the case of a multiple choice item.

*response alternative*: one of four options from which students choose the best response for a multiple choice item. Students record their responses on a mark-sensitive sheet which is computer scanned for scoring.

**response area**: the space provided in the short response testbook where students give their response. It may be a ruled area or grid or a designated space in which to write, draw, complete a diagram, fill in a table, or other task.

*richness*: a property of a test item whereby the item can provide more than the usual single piece of information about student achievement. In the case of a rich short response item, markers are required to award a grade in more than one, usually two, performance domains.

*running rules*: decisions made by unit managers and immersers after the marking has commenced to supplement the application of marking schemes

sample response: authentic student response used for the purposes of training

*second guessing*: anticipating the grade selected by other markers by considering 'What will other markers do?' rather than by applying the marking scheme

*standard*: a reference point for describing the quality of student responses in performance domains (see *marking scheme*)

**standard descriptor:** a statement or list of statements that succinctly conveys the standard or features required in a response to be awarded that grade in a particular performance domain

*star-value*: a rating for a short response item relative to other items on the short response paper, in terms of worth/effort, from [\*] lowest to [\*\*\*\*\*] highest. The star-value is printed beside the item number.

stem: that part of the item that indicates the task set or the question to be answered

*stimulus material*: verbal, numerical, pictorial, tabular, or graphical material that sets the context for the item/s to follow with the aim of promoting students' responses

**testbook (testpaper)**: the booklet provided to a student for the SR subtest; the cover carries directions to students; the booklet contains items arranged within units. The booklet also contains spare pages (in case the student needs extra response space, or decides to rewrite a response after cancelling the initial attempt) and a fold-out section inside the back cover containing the item and star-value distribution.

## training: see marker training

unit: a part of a test consisting of stimulus material and associated items, and often an introduction

**unit manager (SR)**: a person who trains the immersers of a particular unit so that they can train the markers with due regard to the construct of the test. Unit managers direct, assist and monitor the performance of immersers; provide clarification of marking schemes when required; and assist with check marking, referee marking and other quality-control procedures.

validity: the extent to which an assessment instrument measures what it is claimed to measure

*validity of grades*: the extent to which the item and marking scheme measure achievement in the designated CCE/s

**verbal instructions**: information given to markers by immersers to acquaint them with the details and subtleties of marking schemes, and with common response types gleaned from a sample of student responses

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