

# Senior assessment techniques and conditions

## Mathematics learning area

Subject	Assessment information	
<b>General Mathematics</b> General senior subject	Summative internal assessment 1 (IA1): Problem-solving and modelling task (20%)	<b>Conditions</b> <ul style="list-style-type: none"> <li>• Written:                             <ul style="list-style-type: none"> <li>– up to 10 pages, (including tables, figures and diagrams)</li> <li>– maximum of 2000 words</li> <li>– appendixes can include raw data, repeated calculations, evidence of authentication and student notes (appendixes are not to be marked).</li> </ul> </li> <li>• Duration: 4 weeks (including 3 hours of class time)</li> <li>• Other:                             <ul style="list-style-type: none"> <li>– opportunity may be provided for group work, but unique responses must be developed by each student</li> <li>– use of technology is required; schools must specify the technology used, e.g. scientific calculator, graphics calculator, spreadsheet program and/or other mathematical software; use of technology must go beyond simple computation or word processing</li> <li>– the teacher provides the mathematical investigative scenario or context for the problem-solving and modelling task.</li> </ul> </li> </ul>
	Summative internal assessment 2 (IA2): Examination (15%)	<b>Conditions</b> <ul style="list-style-type: none"> <li>• Time: 120 minutes plus 5 minutes perusal.</li> <li>• Length: the number of short-response items should allow students to complete the response in the set time.</li> <li>• Short-response format, consisting of a number of items that ask students to respond to the following activities                             <ul style="list-style-type: none"> <li>– calculating using algorithms</li> <li>– drawing, labelling or interpreting graphs, tables or diagrams</li> <li>– short items requiring single-word, term, sentence or short-paragraph responses</li> <li>– justifying solutions using appropriate mathematical language where applicable</li> <li>– responding to seen or unseen stimulus materials</li> <li>– interpreting ideas and information.</li> </ul> </li> <li>• Other:                             <ul style="list-style-type: none"> <li>– seen stimulus — teachers must ensure the purpose of the technique is not compromised</li> <li>– unseen stimulus — materials or questions must not be copied from information or texts that students have</li> </ul> </li> </ul>

		<p>previously been exposed to or have used directly in class</p> <ul style="list-style-type: none"> <li>- when stimulus materials are used, they will be succinct enough to allow students sufficient time to engage with them; for stimulus materials that are lengthy, complex or large in number, they will be shared with students prior to the administration of the assessment instrument</li> <li>- only the QCAA formula sheet must be provided</li> <li>- notes are not permitted</li> <li>- use of technology is required; schools must specify the technology used, e.g. calculator, spreadsheet program, scientific calculator.</li> </ul>
Summative internal assessment 3 (IA3): Examination (15%)	<b>Conditions</b>	<ul style="list-style-type: none"> <li>• Time: 120 minutes plus 5 minutes perusal.</li> <li>• Length: the number of short-response items should allow students to complete the response in the set time.</li> <li>• Short-response format, consisting of a number of items that ask students to respond to the following activities <ul style="list-style-type: none"> <li>- calculating using algorithms</li> <li>- drawing, labelling or interpreting graphs, tables or diagrams</li> <li>- short items requiring single-word, sentence or short-paragraph responses</li> <li>- justifying solutions using appropriate mathematical language where applicable</li> <li>- responding to seen or unseen stimulus materials</li> <li>- interpreting ideas and information.</li> </ul> </li> <li>• Other: <ul style="list-style-type: none"> <li>- seen stimulus — teachers must ensure the purpose of the technique is not compromised</li> <li>- unseen stimulus — materials or questions must not be copied from information or texts that students have previously been exposed to or have used directly in class</li> <li>- when stimulus materials are used, they will be succinct enough to allow students sufficient time to engage with them; for stimulus materials that are lengthy, complex or large in number, they will be shared with students prior to the administration of the assessment instrument</li> <li>- only the QCAA formula sheet must be provided</li> <li>- notes are not permitted</li> <li>- use of technology is required; schools must specify the technology used, e.g. scientific calculator, graphics calculator, spreadsheet program and/or other mathematical software; use of technology must go beyond simple computation.</li> </ul> </li> </ul>
Summative external assessment (EA): Examination (50%)	<b>Conditions</b>	<ul style="list-style-type: none"> <li>• Time: <ul style="list-style-type: none"> <li>- Paper 1 (30%): 90 minutes plus 5 minutes perusal <ul style="list-style-type: none"> <li>▪ multiple choice and short response, simple familiar questions, QCAA-approved scientific calculator only</li> </ul> </li> </ul> </li> </ul>

		<ul style="list-style-type: none"> <li>- Paper 2 (20%): 90 minutes plus 5 minutes perusal <ul style="list-style-type: none"> <li>▪ short response, complex familiar and complex unfamiliar questions, QCAA-approved scientific calculator only.</li> </ul> </li> <li>• Length: the number of short-response items should allow students to complete the response in the set time.</li> <li>• Short-response format, consisting of a number of items that ask students to respond to the following activities <ul style="list-style-type: none"> <li>- calculating using algorithms</li> <li>- drawing, labelling or interpreting graphs, tables or diagrams</li> <li>- short items requiring multiple-choice, single-word, term, sentence or short-paragraph responses</li> <li>- justifying solutions using appropriate mathematical language where applicable</li> <li>- responding to seen or unseen stimulus materials</li> <li>- interpreting ideas and information.</li> </ul> </li> <li>• Other: <ul style="list-style-type: none"> <li>- the QCAA formula sheet will be provided for both papers</li> <li>- notes are not permitted</li> <li>- access to a handheld scientific calculator is required for papers 1 and 2 (no other form of technology is permitted).</li> </ul> </li> </ul>
<b>Mathematical Methods</b> General senior subject	Summative internal assessment 1 (IA1): Problem-solving and modelling task (20%)	<b>Conditions</b> <ul style="list-style-type: none"> <li>• Write: <ul style="list-style-type: none"> <li>- up to 10 pages, (including tables, figures and diagrams)</li> <li>- maximum of 2000 words</li> <li>- appendixes can include raw data, repeated calculations, evidence of authentication and student notes (appendixes are not to be marked).</li> </ul> </li> <li>• Duration: 4 weeks (including 3 hours of class time).</li> <li>• Other: <ul style="list-style-type: none"> <li>- opportunity may be provided for group work, but unique responses must be developed by each student</li> <li>- use of technology is required; schools must specify the technology used, e.g. scientific calculator, graphics calculator (CAS or non-CAS), spreadsheet program and/or other mathematical software; use of technology must go beyond simple computation or word processing</li> <li>- the teacher provides the mathematical investigative scenario or context for the problem-solving and modelling task.</li> </ul> </li> </ul>
	Summative internal assessment 2 (IA2): Examination (15%)	<b>Conditions</b> <ul style="list-style-type: none"> <li>• Time: 120 minutes plus 5 minutes perusal.</li> <li>• Length: the number of short-response items should allow students to complete the response in the set time.</li> </ul>

		<ul style="list-style-type: none"> <li>• Short-response format, consisting of a number of items that ask students to respond to the following activities <ul style="list-style-type: none"> <li>– calculating using algorithms</li> <li>– drawing, labelling or interpreting graphs, tables or diagrams</li> <li>– short items requiring single-word, term, sentence or short-paragraph responses</li> <li>– justifying solutions using appropriate mathematical language where applicable</li> <li>– responding to seen or unseen stimulus materials</li> <li>– interpreting ideas and information.</li> </ul> </li> <li>• Other: <ul style="list-style-type: none"> <li>– the instrument must be designed in such a way as to ensure that items provide for both technology-free and technology-active responses</li> <li>– seen stimulus — teachers must ensure the purpose of the technique is not compromised</li> <li>– unseen stimulus — materials or questions must not be copied from information or texts that students have previously been exposed to or have used directly in class</li> <li>– when stimulus materials are used, they will be succinct enough to allow students sufficient time to engage with them; for stimulus materials that are lengthy, complex or large in number, they will be shared with students prior to the administration of the assessment instrument</li> <li>– only the QCAA formula sheet must be provided</li> <li>– notes are not permitted</li> <li>– use of technology is required; schools must specify the technology used, e.g. scientific calculator, graphics calculator (CAS or non-CAS), spreadsheet program, and/or other mathematical software; use of technology must go beyond simple computation.</li> </ul> </li> </ul>
	<p>Summative internal assessment 3 (IA3): Examination (15%)</p>	<p><b>Conditions</b></p> <ul style="list-style-type: none"> <li>• Time: 120 minutes plus 5 minutes perusal.</li> <li>• Length: the number of short-response items should allow students to complete the response in the set time.</li> <li>• Short-response format, consisting of a number of items that ask students to respond to the following activities <ul style="list-style-type: none"> <li>– calculating using algorithms</li> <li>– drawing, labelling or interpreting graphs, tables or diagrams</li> <li>– short items requiring single-word, sentence or short-paragraph responses</li> <li>– justifying solutions using appropriate mathematical language where applicable</li> <li>– responding to seen or unseen stimulus materials</li> <li>– interpreting ideas and information.</li> </ul> </li> <li>• Other: <ul style="list-style-type: none"> <li>– the instrument must be designed in such a way as to ensure that items provide for a balance of both technology-free and technology-active responses</li> </ul> </li> </ul>

		<ul style="list-style-type: none"> <li>- seen stimulus — teachers must ensure the purpose of the technique is not compromised</li> <li>- unseen stimulus — materials or questions must not be copied from information or texts that students have previously been exposed to or have used directly in class</li> <li>- when stimulus materials are used, they will be succinct enough to allow students sufficient time to engage with them; for stimulus materials that are lengthy, complex or large in number, they will be shared with students prior to the administration of the assessment instrument</li> <li>- only the QCAA formula sheet must be provided</li> <li>- notes are not permitted</li> <li>- use of technology is required; schools must specify the technology used, e.g. scientific calculator, graphics calculator (CAS or non-CAS), spreadsheet program, and/or other mathematical software; use of technology must go beyond simple computation.</li> </ul>
	Summative external assessment (EA): Examination (50%)	<p><b>Conditions</b></p> <ul style="list-style-type: none"> <li>• Time: <ul style="list-style-type: none"> <li>- Paper 1 (technology-free, 25%); 90 minutes plus 5 minutes perusal</li> <li>- Paper 2 (technology-active, 25%); 90 minutes plus 5 minutes perusal.</li> </ul> </li> <li>• Length: the number of short-response items should allow students to complete the response in the set time.</li> <li>• Short-response format, consisting of a number of items that ask students to respond to the following activities <ul style="list-style-type: none"> <li>- calculating using algorithms</li> <li>- drawing, labelling or interpreting graphs, tables or diagrams</li> <li>- short items requiring multiple-choice, single-word, term, sentence or short-paragraph responses</li> <li>- justifying solutions using appropriate mathematical language where applicable</li> <li>- responding to seen or unseen stimulus materials</li> <li>- interpreting ideas and information.</li> </ul> </li> <li>• Other: <ul style="list-style-type: none"> <li>- the QCAA formula sheet will be provided for both papers</li> <li>- no calculator or technology of any type is permitted in Paper 1 (technology-free); access to a QCAA-approved handheld graphics calculator (no CAS functionality) is a requirement for Paper 2 (technology-active) of the external assessment, and scientific calculators may also be used.</li> </ul> </li> </ul>
<b>Specialist Mathematics</b> General senior subject	Summative internal assessment 1 (IA1): Problem-solving and modelling task (20%)	<p><b>Conditions</b></p> <ul style="list-style-type: none"> <li>• Write: <ul style="list-style-type: none"> <li>- up to 10 pages, (including tables, figures and diagrams)</li> <li>- maximum of 2000 words</li> <li>- appendixes can include raw data, repeated calculations, evidence of authentication and student notes (appendixes are not to be marked)</li> </ul> </li> </ul>

		<ul style="list-style-type: none"> <li>• Duration: 4 weeks (including 3 hours of class time).</li> <li>• Other: <ul style="list-style-type: none"> <li>– opportunity may be provided for group work, but unique responses must be developed by each student</li> <li>– use of technology is required; schools must specify the technology used, e.g. scientific calculator, graphics calculator (CAS or non-CAS), spreadsheet program and/or other mathematical software; use of technology must go beyond simple computation or word processing</li> <li>– the teacher provides the mathematical investigative scenario or context for the problem-solving and modelling task.</li> </ul> </li> </ul>
	Summative internal assessment 2 (IA2): Examination (15%)	<p><b>Conditions</b></p> <ul style="list-style-type: none"> <li>• Time: 120 minutes plus 5 minutes perusal.</li> <li>• Length: the number of short-response items should allow students to complete the response in the set time.</li> <li>• Short-response format, consisting of a number of items that ask students to respond to the following activities: <ul style="list-style-type: none"> <li>– calculating using algorithms</li> <li>– drawing, labelling or interpreting graphs, tables or diagrams</li> <li>– short items requiring single-word, sentence or short-paragraph responses</li> <li>– justifying solutions using appropriate mathematical language where applicable</li> <li>– responding to seen or unseen stimulus materials</li> <li>– interpreting ideas and information.</li> </ul> </li> <li>• Other: <ul style="list-style-type: none"> <li>– the instrument must be designed in such a way as to ensure that items provide a balance of both both technology-free and technology-active responses</li> <li>– seen stimulus — teachers must ensure the purpose of the technique is not compromised</li> <li>– unseen stimulus — materials or questions must not be copied from information or texts that students have previously been exposed to or have directly used in class</li> <li>– when stimulus materials are used, they will be succinct enough to allow students sufficient time to engage with them; for stimulus materials that are lengthy, complex or large in number, they will be shared with students prior to the administration of the assessment instrument</li> <li>– only the QCAA formula sheet must be provided</li> <li>– notes are not permitted</li> <li>– use of technology is required; schools must specify the technology used, e.g. scientific calculator, graphics calculator (CAS or non-CAS), spreadsheet program and/or other mathematical software; use of technology must go beyond simple computation.</li> </ul> </li> </ul>
	Summative internal assessment 3 (IA3):	<p><b>Conditions</b></p> <ul style="list-style-type: none"> <li>• Time: 120 minutes plus 5 minutes perusal</li> </ul>

	Examination (15%)	<ul style="list-style-type: none"> <li>• Length: the number of short-response items should allow students to complete the response in the set time.</li> <li>• Short-response format, consisting of a number of items that ask students to respond to the following activities <ul style="list-style-type: none"> <li>– calculating using algorithms</li> <li>– drawing, labelling or interpreting graphs, tables or diagrams</li> <li>– short items requiring single-word, sentence or short-paragraph responses</li> <li>– justifying solutions using appropriate mathematical language where applicable</li> <li>– responding to seen or unseen stimulus materials</li> <li>– interpreting ideas and information.</li> </ul> </li> <li>• Other: <ul style="list-style-type: none"> <li>– the instrument must be designed in such a way as to ensure that items provide for both technology-free and technology-active responses</li> <li>– seen stimulus — teachers must ensure the purpose of the technique is not compromised</li> <li>– unseen stimulus — materials or questions must not be copied from information or texts that students have previously been exposed to or have directly used in class</li> <li>– when stimulus materials are used, they will be succinct enough to allow students sufficient time to engage with them; for stimulus materials that are lengthy, complex or large in number, they will be shared with students prior to the administration of the assessment instrument</li> <li>– only the QCAA formula sheet must be provided</li> <li>– notes are not permitted</li> <li>– use of technology is required; schools must specify the technology used, e.g. scientific calculator, graphics calculator (CAS or non-CAS), spreadsheet program and/or other mathematical software; use of technology must go beyond simple computation.</li> </ul> </li> </ul>
	Summative external assessment (EA): Examination (50%)	<p><b>Conditions</b></p> <ul style="list-style-type: none"> <li>• Time: <ul style="list-style-type: none"> <li>– Paper 1 (technology-free, 25%); 90 minutes plus 5 minutes perusal</li> <li>– Paper 2 (technology-active, 25%); 90 minutes plus 5 minutes perusal.</li> </ul> </li> <li>• Length: the number of short-response items should allow students to complete the response in the set time.</li> <li>• Short-response format, consisting of a number of items that ask students to respond to the following activities <ul style="list-style-type: none"> <li>– calculating using algorithms</li> <li>– drawing, labelling or interpreting graphs, tables or diagrams</li> <li>– short items requiring multiple-choice, single-word, sentence or short-paragraph responses</li> <li>– justifying solutions using appropriate mathematical language where applicable</li> <li>– responding to seen or unseen stimulus materials</li> <li>– interpreting ideas and information.</li> </ul> </li> </ul>

		<ul style="list-style-type: none"> <li>• Other: <ul style="list-style-type: none"> <li>– the QCAA formula sheet will be provided for both papers</li> <li>– no calculator or technology of any type is permitted in Paper 1 (technology-free); access to an approved handheld graphics calculator (no CAS functionality) is a requirement for Paper 2 (technology-active) of the external assessment, and scientific calculators may also be used.</li> </ul> </li> </ul>
<b>Essential Mathematics</b> Applied senior subject	Summative internal assessment 1 (IA1): Problem-solving and modelling task	<p><b>Conditions</b></p> <ul style="list-style-type: none"> <li>• Written: <ul style="list-style-type: none"> <li>– up to 8 pages, (including tables, figures and diagrams)</li> <li>– maximum of 1000 words</li> <li>– appendixes can include raw data, repeated calculations, evidence of authentication and student notes (appendixes are not to be marked).</li> </ul> </li> <li>• Duration: 5 weeks (including 10 hours of class time).</li> <li>• Other: <ul style="list-style-type: none"> <li>– opportunity may be provided for group work, but unique responses must be developed by each student</li> <li>– use of technology is required; schools must specify the technology used, e.g. scientific calculator, graphics calculator, spreadsheet program and/or other mathematical software; use of technology must go beyond simple computation or word processing</li> <li>– the teacher provides the mathematical investigative scenario or context for the problem-solving and modelling task.</li> </ul> </li> </ul>
	Summative internal assessment 2 (IA2): Common internal assessment (CIA)	<p><b>Conditions</b></p> <ul style="list-style-type: none"> <li>• Time: 60 minutes plus 5 minutes perusal <ul style="list-style-type: none"> <li>– Part A: simple <ul style="list-style-type: none"> <li>▪ short response</li> </ul> </li> <li>– Part B: complex <ul style="list-style-type: none"> <li>▪ short response.</li> </ul> </li> </ul> </li> <li>• Length: the number of short-response items should allow students to complete the responses in the set time.</li> <li>• Short-response format, consisting of a number of items that ask students to respond to the following activities: <ul style="list-style-type: none"> <li>– calculating using algorithms</li> <li>– drawing, labelling or interpreting graphs, tables or diagrams</li> <li>– short items requiring single-word, term, sentence or short paragraph responses</li> <li>– justifying solutions using appropriate mathematical language where applicable</li> <li>– responding to seen or unseen stimulus materials</li> <li>– interpreting ideas and information.</li> </ul> </li> </ul>



		<ul style="list-style-type: none"> <li>• Other: <ul style="list-style-type: none"> <li>– only the QCAA formula sheet must be provided</li> <li>– notes are not permitted</li> <li>– use of technology is required; schools must specify the technology used, e.g. scientific calculator, graphics calculator, spreadsheet program and/or other mathematical software.</li> </ul> </li> </ul>
	Summative internal assessment 3 (IA3): Problem-solving and modelling task	<p><b>Conditions</b></p> <ul style="list-style-type: none"> <li>• Written: <ul style="list-style-type: none"> <li>– up to 8 pages (including tables, figures and diagrams)</li> <li>– maximum of 1000 words</li> <li>– appendixes can include raw data, repeated calculations, evidence of authentication and student notes (appendixes are not to be marked).</li> </ul> </li> <li>• Duration: 5 weeks (including 10 hours of class time).</li> <li>• Other: <ul style="list-style-type: none"> <li>– opportunity may be provided for group work, but unique responses must be developed by each student</li> <li>– use of technology is required; schools must specify the technology used, e.g. graphics calculator, spreadsheet program, scientific calculator</li> <li>– the teacher provides the mathematical investigative scenario or context for the problem-solving and modelling task.</li> </ul> </li> </ul>
	Summative internal assessment (IA4): Examination	<p><b>Conditions</b></p> <ul style="list-style-type: none"> <li>• Time: 60 minutes plus 5 minutes perusal <ul style="list-style-type: none"> <li>– Part A: simple <ul style="list-style-type: none"> <li>▪ short response</li> </ul> </li> <li>– Part B: complex <ul style="list-style-type: none"> <li>▪ short response.</li> </ul> </li> </ul> </li> <li>• Length: the number of short-response items should allow students to complete the responses in the set time.</li> <li>• Short response format, consisting of a number of items that ask students to respond to the following activities: <ul style="list-style-type: none"> <li>– calculating using algorithms</li> <li>– drawing, labelling or interpreting graphs, tables or diagrams</li> <li>– short items requiring single-word, term, sentence or short paragraph responses</li> <li>– justifying solutions using appropriate mathematical language where applicable</li> <li>– responding to seen or unseen stimulus materials</li> <li>– interpreting ideas and information.</li> </ul> </li> <li>• Other:</li> </ul>

		<ul style="list-style-type: none"> <li>- seen stimulus — teachers must ensure the purpose of the technique is not compromised</li> <li>- unseen stimulus — materials or questions must not be copied from information or texts that students have previously been exposed to or have directly used in class</li> <li>- when stimulus materials are used, they will be succinct enough to allow students sufficient time to engage with them; for stimulus materials that are lengthy, complex or large in number, they will be shared with students prior to the administration of the assessment instrument</li> <li>- only the QCAA formula sheet must be provided</li> <li>- notes are not permitted</li> <li>- use of technology is required; schools must specify the technology used, e.g. scientific calculator, graphics calculator, spreadsheet program and/or other mathematical software.</li> </ul>
<b>Numeracy</b> Short course	Internal assessment 1A: Extended response — oral mathematical presentation	<ul style="list-style-type: none"> <li>• Spoken: 2–4 minutes</li> <li>• Duration: 5 weeks (including 10 hours of class time).</li> <li>• Other: <ul style="list-style-type: none"> <li>- opportunity may be provided for group work, but unique responses must be developed by each student</li> <li>- use of technology is required; schools must specify the technology used, e.g. scientific calculator, graphics calculator, spreadsheet program and/or other mathematical software; use of technology must go beyond simple computation or word processing</li> <li>- the teacher provides the mathematical investigative scenario or context for the oral presentation.</li> </ul> </li> </ul>
	Internal assessment 1B: Student learning journal	<ul style="list-style-type: none"> <li>• Mode: The journal may be presented in written, visual and/or digital form.</li> <li>• Other: The journal may use varied forms of writing such as bullet points, lists, continuous passages of text, quotations, tables, diagrams and pictures/illustrations. It may also contain annotated presentation notes, teacher observation sheets, and self or peer assessment.</li> </ul>
	Internal assessment 2A: Examination — short response	<ul style="list-style-type: none"> <li>• Supervised conditions</li> <li>• Individual response</li> <li>• Perusal time or planning time may be required</li> <li>• Time: 60 minutes, plus 5 minutes perusal</li> <li>• If computers are used, ensure that the purpose of this instrument is maintained.</li> <li>• Open book or notes may be allowed; these conditions must be clearly outlined on the assessment instrument.</li> </ul>
	Internal assessment 2B: Student learning journal	<ul style="list-style-type: none"> <li>• Mode: The journal may be presented in written, visual and/or digital form.</li> <li>• Other: The journal may use varied forms of writing such as bullet points, lists, continuous passages of text, quotations, tables, diagrams and pictures/illustrations.</li> </ul>