

# 2011 NAPLAN — Year 9 Numeracy

Information about the test preparation questions and the marking guide

These sets of questions have been developed to provide a diagnostic resource that Queensland teachers can use to prepare their students for the 2011 NAPLAN Numeracy tests in May. The questions have been written using the 2009 and 2010 NAPLAN questions as models. The formats and general style are similar. As in the tests, most of the questions are multiple choice. About a quarter of the questions require a constructed response.

The NAPLAN tests include some questions that are easy enough to be answered by a very high proportion of students. These sets of preparation questions do not contain many of this type of question. A deliberate attempt has been made to provide some questions that will challenge the majority of students.

As a teacher you know your class so, it is up to you how you use these sets of questions.

**For Year 9**, there are **10 sets of questions**: some sets are to be done **without** a calculator and in others a calculator **may** be used. On the NAPLAN test where a calculator is allowed, there will be items that do not require its use. Please advise your students of this.

There are 8 questions in each set. It should take you approximately 10 to 12 minutes to administer a set of questions.

To use these preparation questions:

- download the sets of questions and give them out to students at regular intervals prior to the tests. They can be corrected very quickly. After ten minutes or so working time, teachers could read out the answers and have students correct their responses. Alternatively, student work could be collected and marked
- note which questions students, collectively or individually, did not do well. Analyse responses to determine why (e.g. it may have been a while since the topic was covered or it may be because the question involved a concept that students normally find difficult) and decide what needs to be done to help overcome the difficulties students experienced (e.g. discuss or review the concept with the class).

We recommend that you:

- give students no more than 10 to 12 minutes per set or use the sets of questions as homework assignments. The NAPLAN tests are time-limited tests therefore, practice for the tests should mirror this
- make sure that the students do not collaborate with each other — or you — while they work on the questions. They will not be useful as diagnostic instruments if this happens. Make the experience as much like the real thing as possible.

The **class performance on each question** is probably the most useful indicator for a teacher, so resist the temptation to pay too much attention to the **total score each student** achieves on a set of questions.

If only a few of the students in a class answer a question correctly, it should not be a cause for too much concern. It may be a difficult concept or one that students have not yet studied this year or have not seen for some time.

The sets of questions are meant to inform teaching practice by helping teachers diagnose areas where some review or explanation might improve student performance in the tests. Teachers will miss an opportunity to use the information gathered from the preparation questions if they give students an hour and a quarter to answer all the questions in the days before the test.

The results achieved on these sets of questions should not be used as a component of the school assessment program.

## Marking guide

### Year 9 – Set One

- |                         |                      |                        |           |
|-------------------------|----------------------|------------------------|-----------|
| 1. $97^\circ$           | 2. A                 | 3. C ( $2(3n + 6)$ )   | 4. C (12) |
| 5. D ( $2\frac{1}{3}$ ) | 6. C ( $240^\circ$ ) | 7. 118 ( $243 - 125$ ) | 8. B (16) |

### Year 9 – Set Two

- |              |                          |               |                             |
|--------------|--------------------------|---------------|-----------------------------|
| 1. 7, 11, 29 | 2. C ( $b + a > b + c$ ) | 3. B (350 mL) | 4. B ( $520 \text{ cm}^2$ ) |
| 5. $k = -15$ | 6. C (30%)               | 7. C (0.17)   | 8. $220^\circ$              |

### Year 9 – Set Three

- |                          |                |                            |                                 |
|--------------------------|----------------|----------------------------|---------------------------------|
| 1. D (-32)               | 2. C (23.12 m) | 3. D ( $62\frac{1}{2}\%$ ) | 4. A (less than $\frac{3}{4}$ ) |
| 5. 49040 km <sup>2</sup> | 6. A (-125)    | 7. 107.8 cm <sup>2</sup>   | 8. C (12°)                      |

### Year 9 – Set Four

- |              |                          |               |                    |
|--------------|--------------------------|---------------|--------------------|
| 1. 45%       | 2. A (343 <sup>4</sup> ) | 3. C (2 in 5) | 4. A (3 hr 20 min) |
| 5. D (16 cm) | 6. C (B and D)           | 7. C (25 km)  | 8. -6              |

### Year 9 – Set Five

- |               |                   |                       |                          |
|---------------|-------------------|-----------------------|--------------------------|
| 1. B (< 130°) | 2. B (40 m)       | 3. C (Greece)         | 4. B (40%)               |
| 5. A (3)      | 6. 5:6 (or 10:12) | 7. 875 m <sup>2</sup> | 8. C (25787 = 107 x 241) |

### Year 9 – Set Six

- |                                 |              |                        |
|---------------------------------|--------------|------------------------|
| 1. A ( $ab - x^2$ , $2a + 2b$ ) | 2. D (4, -2) | 3. D ( $16 - 9z$ )     |
| 4. 15 & 2 (or -15 & -2)         | 5. B (6)     | 6. A ( $\frac{3}{5}$ ) |
| 7. B (72)                       | 8. 20        |                        |

### Year 9 – Set Seven

- |                       |                                     |                                  |                                      |
|-----------------------|-------------------------------------|----------------------------------|--------------------------------------|
| 1. A (mean 9, med 10) | 2. B ( $14 \times 1.6 \times 2.2$ ) | 3. 182                           | 4. C ( $\frac{5}{8}$ )               |
| 5. D ( $9k^2$ )       | 6. 25 cm                            | 7. D ( $2^{56} \times 17^{56}$ ) | 8. B ( $\frac{y}{z} < \frac{y}{x}$ ) |

### Year 9 – Set Eight

- |                         |                 |                   |              |
|-------------------------|-----------------|-------------------|--------------|
| 1. B ( $\frac{3}{10}$ ) | 2. 40 cents     | 3. C (south-east) | 4. B (228.5) |
| 5. 36 litres            | 6. 1680 flights | 7. 6 and 26       | 8. A (77)    |

### Year 9 – Set Nine

- |                    |             |                              |            |
|--------------------|-------------|------------------------------|------------|
| 1. C ( $7x + 2y$ ) | 2. C (120°) | 3. A                         | 4. D (128) |
| 5. C (15°)         | 6. A        | 7. D ( $0.164 \times 10^9$ ) | 8. 95      |

### Year 9 – Set Ten

- |            |                     |          |   |
|------------|---------------------|----------|---|
| 1. D (36)  | 2. C (4° S, 126° E) | 3. 14    | 4. B  |
| 5. 5 hours | 6. 8 cars           | 7. B (3) | 8. C ( $\pi \times 3^2 \times 2 + 2 \times \pi \times 3 \times 8$ ) |