1999

SCHOOL
CERTIFICATE
TEST

9 November
Start 9.25 am

MATHEMATICS

SECTION 1

BOARD OF STUDIES
NEW SOUTH WALES

# General Test Instructions

- Preparation time: 5 minutes
- Working time: 2 hours
- The supervisor will tell you when to begin the test
- This test has TWO sections
- Attempt ALL questions
- There will be a short break between Section 1 and Section 2
- Calculators may be used in Section 2 only
- The Sample Questions & Formulae Booklet may be used in both sections.

# Directions for Section 1

1   You have 30 minutes to answer Section 1

2   Section 1          Questions 1–25          (25 marks)

3   Calculators are NOT to be used in Section 1

4   • Complete your answers to Questions 1–12 on
       Section 1—Answer Sheet 1

    • Complete your answers to Questions 13–25 on
       Section 1—Answer Sheet 2

**Complete your answers to Questions 1–12 on Section 1—Answer Sheet 1.**

**1**  $2 \times 5 + 7 \times 10 =$

   (A)  80          (B)  150          (C)  170          (D)  700

**2**  Write 57 263 to the nearest hundred.

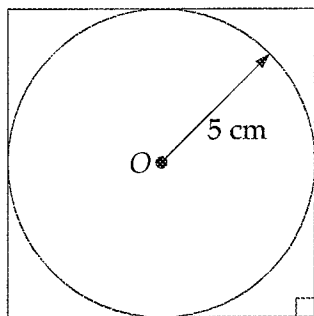   (A)  57 000      (B)  57 200       (C)  57 260       (D)  57 300

**3**  $\dfrac{5}{100} + \dfrac{3}{10} =$

   (A)  0.305       (B)  0.35         (C)  0.503        (D)  0.53

**4**  102 multiplied by 395 is about

   (A)  4000        (B)  40 000       (C)  400 000      (D)  4 000 000

**5**

A circle with radius 5 cm is drawn in a square as shown.

The area of the square is

   (A)  20 cm$^2$

   (B)  25 cm$^2$

   (C)  40 cm$^2$

   (D)  100 cm$^2$

**6**  Which decimal is closest to 5.17?

   (A)  5.16        (B)  5.175        (C)  5.18         (D)  5.2

**7**  Tran caught 30 fish but 2 out of every 3 were too small to take home.

   How many fish were too small to take home?

   (A)  10          (B)  12           (C)  18           (D)  20
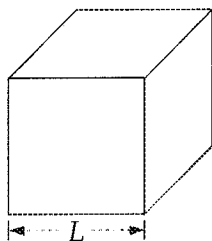
8    Sylvia starts watching a video at 7:55 pm.
     The video runs for 135 minutes.

     At what time will the video finish?

     (A)  9:10 pm        (B)  9:30 pm        (C)  10:10 pm        (D)  10:20 pm

9    The fraction $\dfrac{1}{3}$ is

     (A)  less than $\dfrac{3}{10}$              (B)  greater than $\dfrac{7}{20}$

     (C)  equal to $0.\dot{3}$                   (D)  equal to 33%

10   John is asked to find 24% of $8.96.
     He enters into his calculator 24 ÷ 100 × 896 and the display is 215.04.

     The answer, to the nearest five cents, is

     (A)  215.05 cents   (B)  21 505 cents   (C)  $2.15        (D)  $215.05

11   If $\Delta < -3$, then $\Delta$ can have the value

     (A)  0             (B)  $\pm\dfrac{1}{3}$        (C)  –2              (D)  –4

12

NOT
TO
SCALE

$\leftarrow\!\cdots L\cdots\!\rightarrow$

The volume of a cube is 64 cubic centimetres.

The side length ($L$) of the cube is

(A)  4 cm
(B)  8 cm
(C)  16 cm
(D)  20 cm

**Complete your answers to Questions 13–25 on Section 1—Answer Sheet 2.**

**13** This timetable shows the times a bus departs from the terminal.

| DEPARTURE TIMES | | | | |
|---|---|---|---|---|
| am  4 | 53 | | | |
| 5 | 10 | 35 | | |
| 6 | 08 | 28 | 43 | 58 |
| 7 | 14 | 28 | 43 | 58 |
| 8 | 13 | 28 | 47 | |
| 9 | 17 | 47 | | |
| 10 | 17 | 47 | | |

The first bus departs at 4:53 am.
Paula misses the 8:47 am bus by 3 minutes.

How long does she wait for the next bus?

**14** Find $2\frac{1}{2}\%$ of $600.

**15** The fraction $\dfrac{61}{\square}$ has a value between 4 and 7, where $\square$ is a whole number.

What is a possible value for $\square$?

**16** Each day Emily wears a jacket, a blouse and a pair of slacks.
She owns 2 jackets, 4 blouses and 3 pairs of slacks.

How many different combinations can she wear?

**17** Jim bought a salad roll for $6.00.
The next day the price had risen to $6.60.

Find the percentage increase on the original price.

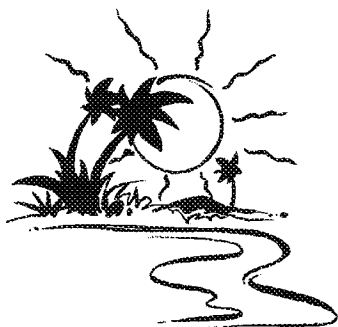**18**  Ice-cream must be stored at −4°C.
The temperature of a freezer is 2°C.

What change in temperature is needed to store ice-cream?

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**19**  A bottle of wine costs $10.
The wine itself costs $6 more than the bottle.

What is the value of the bottle?

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**20**

| HOLIDAY FUN TRAVEL | |
|---|---|
| *Package 1* | *Package 2* |
| **5 nights, $1200** | **7 nights, $1400** |
| includes: | includes: |
| return airfare | return airfare |
| accommodation | accommodation |

What is the cost of a return airfare?

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**21**  The recommended amount of a washing powder is one cup per wash.

If the recommended amount of powder is used per wash, then a box contains enough powder for 24 washes.

Theresa uses only $\dfrac{3}{4}$ cup each wash.

How many washes will she get from a box?

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**22**

$$1 \qquad = \quad 1 \quad = \quad \frac{1}{2}(3 \pm 1)$$

$$1+4 \qquad = \quad 5 \quad = \quad \frac{2}{2}(6 \pm 1)$$

$$1+4+7 \qquad = \quad 12 \quad = \quad \frac{3}{2}(9 \pm 1)$$

$$1+4+7+10 \quad = \quad 22 \quad = \quad \frac{4}{2}(12 \pm 1)$$

Use the pattern to find the value of

$$1 \ + \ 4 \ + \ 7 \ + \ 10 \ + \ \ldots \ + \ 25$$

**Each of Questions 23, 24 and 25 may have MORE THAN ONE correct answer. Fill in EVERY answer for each of these questions on Section 1—Answer Sheet 2.**
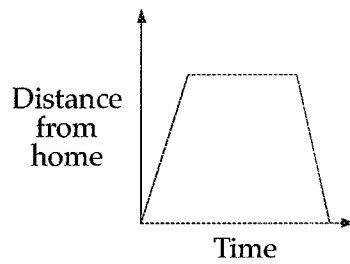
**23** $7.3 \times 5$ is the same as

(A) $7.3 \times 10 \div 2$    (B) $7.3 \div 10 \times 2$    (C) $73 \div 0.5$    (D) $73 \times 0.5$
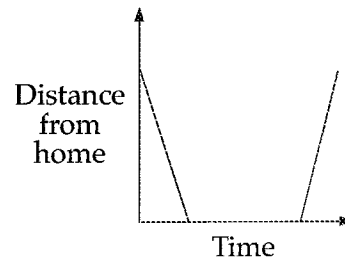
**24** Peta rides to school in the morning and back home in the afternoon.

Which of the following could represent this information?
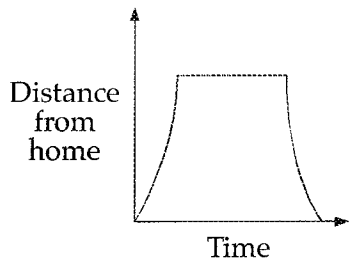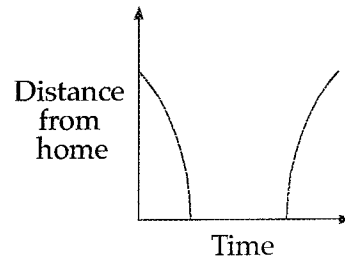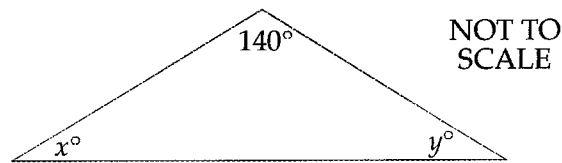
(A)



(B)



(C)



(D)



**25**



In the triangle, the values of $x$ and $y$ could be

(A) $x = 40$ and $y = 0$

(B) $x = 20$ and $y = 20$

(C) $x = 45$ and $y = 5$

(D) $x = 25$ and $y = 15$

**End of questions in Section 1 that may require you to fill in more than one correct answer.**