



BOARD OF STUDIES
NEW SOUTH WALES

**2003
SCHOOL
CERTIFICATE
TEST**

11 November

MATHEMATICS

SECTION 1

25 marks

CENTRE NUMBER

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STUDENT NUMBER

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Directions for Section 1

- You have 30 minutes to answer this section
- Write your answers to Questions 1–25 in this booklet
- Calculators are NOT to be used in this section
- Write your Centre Number and Student Number at the top of this page

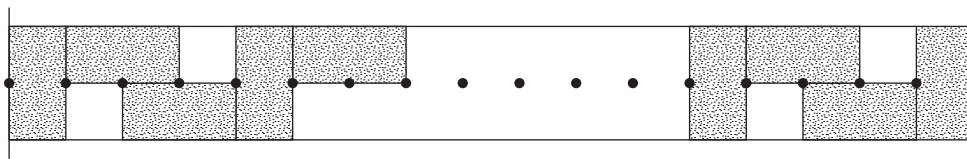
Complete your answers to Questions 1–25 in this booklet.

1 Maryann spends \$15.10.

What change does she receive from \$20?

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2 The diagram includes grey and white tiles. Complete the pattern by shading the missing grey tiles.



3 Convert 3.11 metres to millimetres.

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4 Nora is supposed to start work at 8.00 am. She loses half an hour's pay for that day if she is more than 5 minutes late.

How many hours' pay will she lose if she works the following hours in one week?

Monday	8.06 am – 4.00 pm
Tuesday	8.03 am – 4.00 pm
Wednesday	8.08 am – 4.00 pm
Thursday	8.13 am – 4.00 pm
Friday	8.01 am – 4.00 pm

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- 5 Write another score to make the range equal to the mode.

16 19 19 19 24 26 30

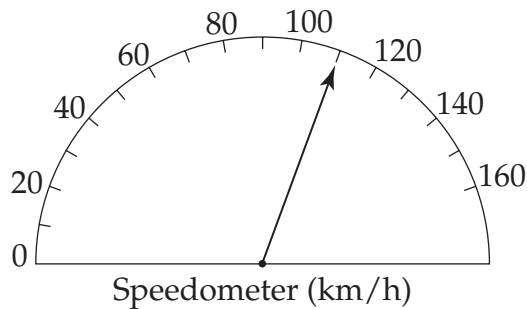
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- 6 Ian bought 7297 litres of fuel at 92.4 cents per litre.

Given that $7297 \times 924 = 6\,742\,428$, what was the cost of the fuel, correct to the nearest dollar?

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- 7



1	2	8	4	2	0
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Odometer (km)

Mrs Khan is driving her car at a constant speed. The diagram shows her speedometer and odometer. The odometer shows whole kilometres.

If she continues at this speed for another half hour, what will be the reading on the odometer?

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- 8 Insert grouping symbols to make the following statement true.

$$8 - 3 - 2 \times 5 = 15$$

9 A bag contains 7 blue marbles, 2 yellow marbles and 1 green marble.

One marble is selected at random. What is the probability of NOT selecting a blue marble?

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10 The three consecutive numbers 25, 26 and 27 have a product of 17 550.

Find three consecutive numbers with a product of 990.

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11 A green light flashes every 8 seconds and a red light flashes every 6 seconds. Zehra sees the green and red lights flash at the same time.

How many seconds later will she see the lights flash together again?

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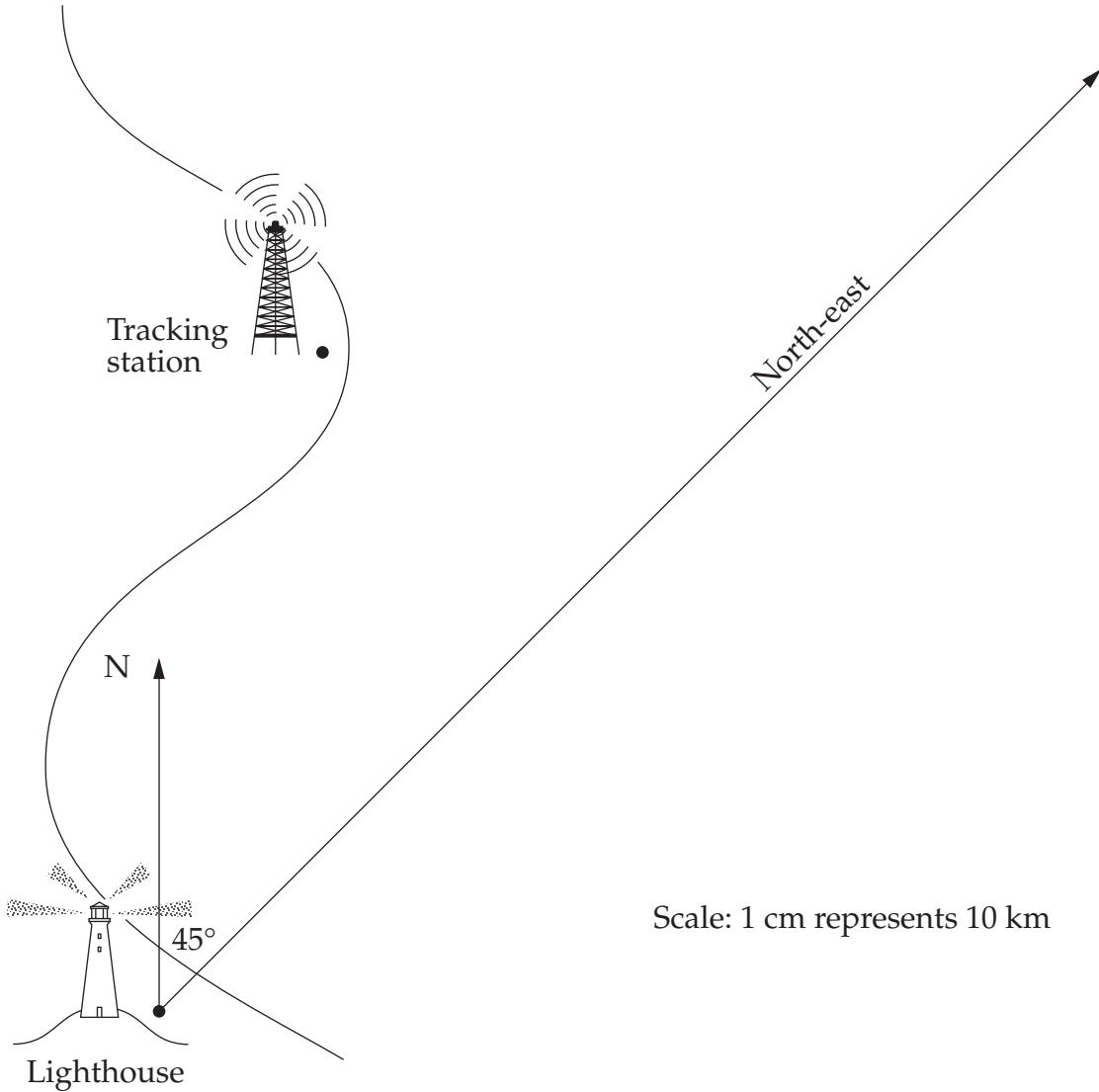
12 Turf is sold in strips 50 cm by 3 m.

How many strips will Effie need to cover a rectangular area 12 m by 8 m?

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- 13 A distress signal has been detected from a ship. The ship is north-east of the lighthouse and it is 50 km from the tracking station.

The positions of the tracking station and the lighthouse are marked with dots.



Use your geometrical instruments to locate TWO possible positions of the ship. Label the positions X and Y.

- 14 In a garden, the ratio of flowering plants to non-flowering plants is 2 : 3. There are 450 plants in the garden.

How many non-flowering plants are in the garden?

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- 15 At the end of one year, Mr Willis received \$40 interest from an investment. The interest rate was 5% per annum.

How much had Mr Willis invested?

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- 16 Adele sells cosmetics. She is paid by commission.

Briefly explain the meaning of *commission*.

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- 17 The chairs in a school hall are arranged in 20 rows with 24 chairs in each row.

Jeff removes the first five rows to leave space at the front. He places these chairs in the remaining rows, so that each row has the same number of chairs.

How many chairs are now in each row?

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.....

- 18 Write positive integers in the \square and \triangle to make this subtraction true:

$$\begin{array}{r}
 9 \quad 3 \quad 4 \quad - \\
 2 \quad \square \quad 3 \\
 \hline
 6 \quad 5 \quad \triangle \\
 \hline
 \end{array}$$

- 19 Between which two consecutive whole numbers is the square root of 42.5?

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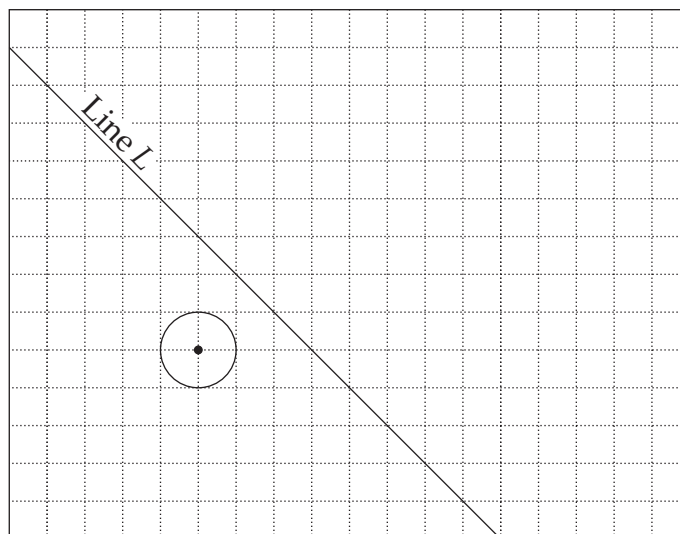
- 20 Work out the value of

$$\frac{1 + \frac{2}{3}}{1 - \frac{2}{3}}$$

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- 21 The diagram shows a circle and a line L .

Reflect the circle in the line L .



Please turn over

- 22 The price of a coat was \$160. This price increased by 25%. A month later Josie bought the coat at a 25% discount sale.

How much did Josie pay for the coat?

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- 23 The 3 digit number $2 \square 6$ is divisible by 3.

What could the missing digit be?

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- 24 The diagonal of a square is 12 cm long.

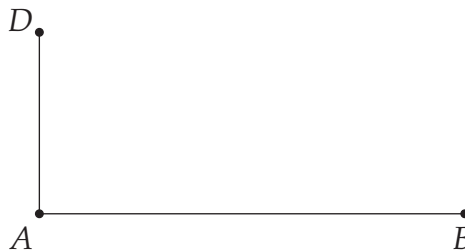
What is the area of the square?

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- 25 AB and AD are two sides of a quadrilateral $ABCD$. The quadrilateral has one pair of parallel sides and unequal diagonals.

Accurately complete a possible quadrilateral $ABCD$.



End of Section 1