

BOARD OF STUDIES  
NEW SOUTH WALES

**2000  
SCHOOL  
CERTIFICATE  
TEST**

**7 November  
Start 9.25 am**

**MATHEMATICS**

**SECTION 1**

**25 marks**

**CENTRE NUMBER**

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**STUDENT NUMBER**

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## General Test Instructions

- Reading 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 and Formulae Booklet may be used in both sections

## Directions for Section 1

- 1 You have 30 minutes to answer this section
- 2 Write your answers to Questions 1–25 in this booklet
- 3 Calculators are NOT to be used in Section 1
- 4 Complete your answers in either blue or black pen
- 5 Write your Centre Number and Student Number at the top of this page

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

1 Write 7.4265 correct to 2 decimal places.

.....

2 Evaluate  $54.7 \times 100$ .

.....

.....

3 Find the value of  $2^3 + 3^2$ .

.....

.....

4 Write a decimal that lies between  $\frac{1}{2}$  and  $\frac{3}{4}$ .

.....

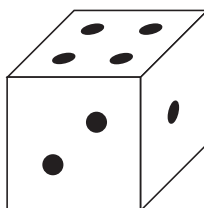
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5 Evaluate  $0.4 \times 0.2$

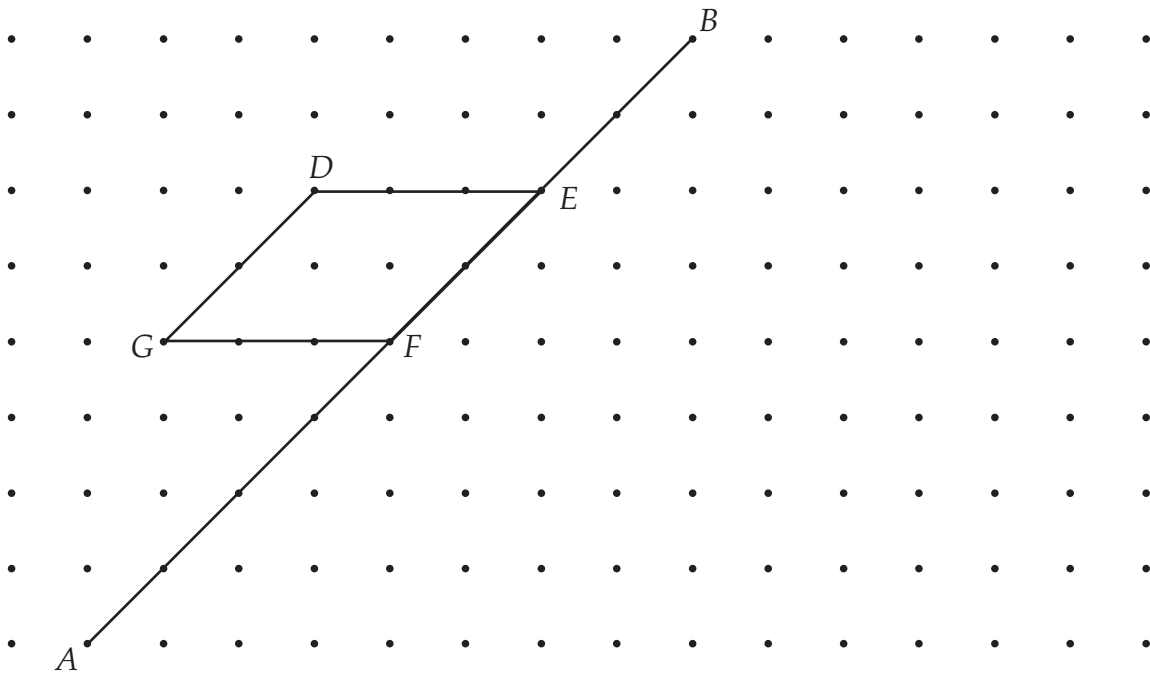
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6 Mark, on this scale, the probability of throwing a 'four' with one roll of a dice.

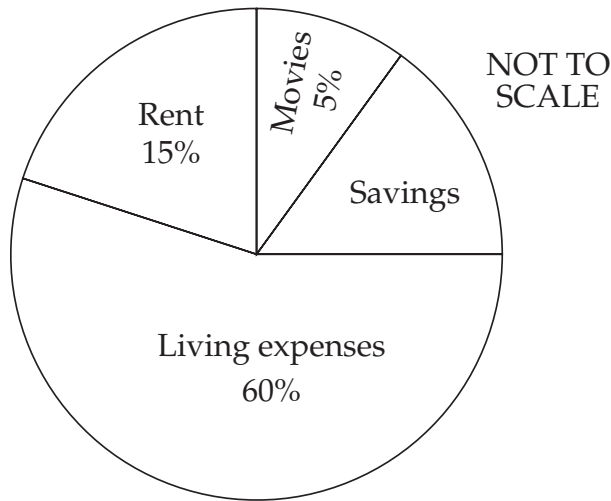


7 Reflect the parallelogram  $DEFG$  in the line  $AB$ .



Questions 8 and 9 refer to the sector graph.

8



The sector graph shows how Phil spends his weekly wage.  
 What fraction of his weekly wage does he save? (Answer in simplest form.)

.....  
 .....

9 Phil's weekly rent is \$75.  
 Calculate his living expenses.

.....  
 .....

10 By how much is  $\frac{1}{2}$  greater than  $\frac{3}{8}$ ?

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 .....

11 The expression  $\frac{10 + \square}{3}$  has a value between 6 and 8, where  $\square$  is a whole number.

What is a possible value for  $\square$ ?

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 .....

12 Evaluate  $15 \times 99$ .

.....  
 .....

13 Write a description of a trapezium.

.....  
 .....

14 If  $7! = 7 \times 6 \times 5 \times 4 \times 3 \times 2 \times 1$  and  $5! = 5 \times 4 \times 3 \times 2 \times 1$ ,  
 find the value of  $\frac{7!}{5!}$ .

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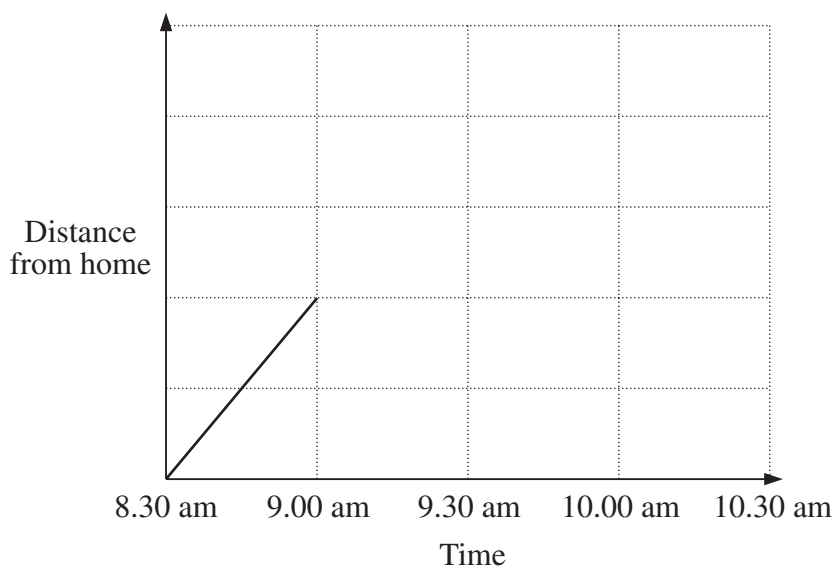
15

Score	Frequency
1	4
2	<input type="text"/>
3	3
4	<input type="text"/>
5	2
	20

Write a number in each box so that this set of 20 scores has a median of 3.

- 16 Mario walked from home to the local shop. At the shop he had a drink and a rest before returning home. He arrived home at 10 am.

Complete the diagram to make a possible travel graph of his outing.

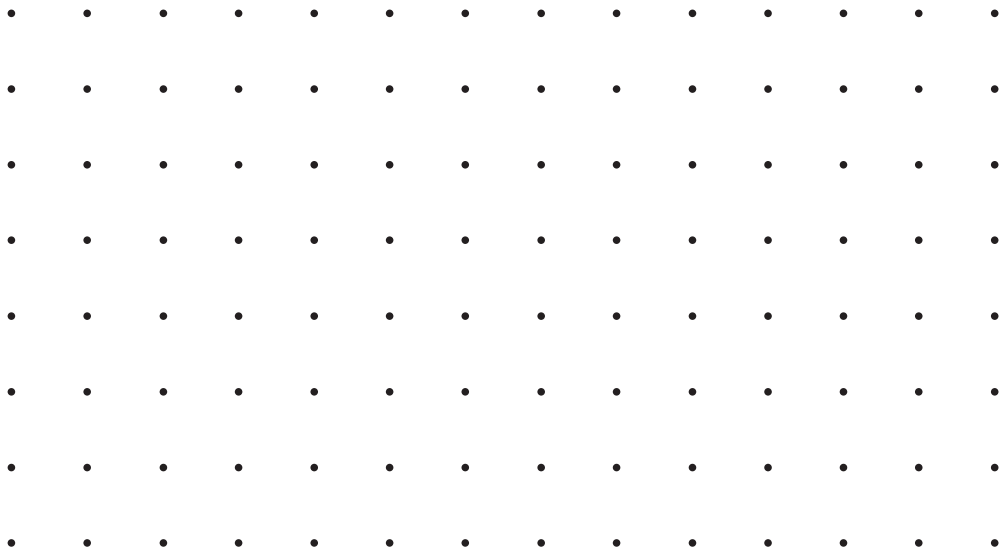


- 17 Write  $\frac{2}{3}$  as a repeating decimal.

.....

.....

18 Use the grid to draw a *triangle* with an area of 6 square centimetres.



19 A bag contains 350 coins. Dimitrios takes four fifths of the coins out of the bag and divides them into 7 equal groups.

How many coins are in each group?

.....  
 .....

20 The symbol  $\psi$  stands for 'double and add 3'.

$$\begin{aligned} \text{For example, } \psi(4) &= 2 \times 4 + 3 \\ &= 11 \end{aligned}$$

Evaluate  $\psi(8)$ .

.....  
 .....

21 Consider the pattern

$$\begin{aligned} 3^2 - 2^2 &= 3 + 2 = 5 \\ 4^2 - 3^2 &= 4 + 3 = 7 \\ 5^2 - 4^2 &= 5 + 4 = 9 \end{aligned}$$

Use the pattern to complete:

$$29^2 - 28^2 = \boxed{\phantom{00}} + \boxed{\phantom{00}} = \boxed{\phantom{00}}$$

- 22 Fred is one year older than Bill and one year younger than Mary.  
The sum of all their ages is 15.

Calculate the product of their ages.

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- 23 Chris is travelling at 90 km/h.

Given that 18 km/h is the same as 5 m/s, how far does Chris travel in one second?

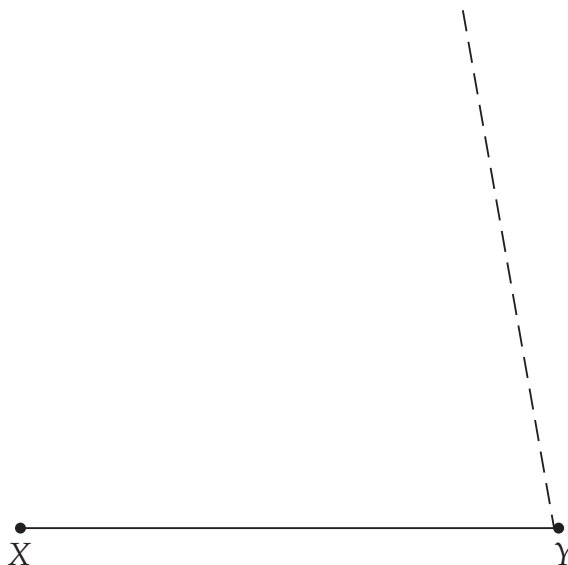
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- 24 Write a set of 4 scores with a range of 8 and a median of 7.

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- 25 Soula is constructing a triangle  $XYZ$ .  
 $Z$  lies on the dotted line.  
The angle at  $X$  is half the size of the angle at  $Y$ .

Complete the triangle to accurately show the position of  $Z$ .



**End of Section 1**

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