

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 54.7×100 .

.....

.....

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

.....

.....

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

.....

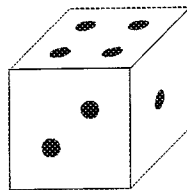
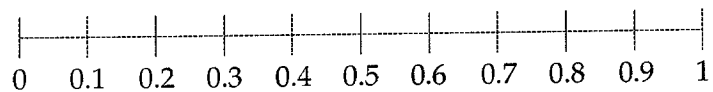
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5 Evaluate 0.4×0.2

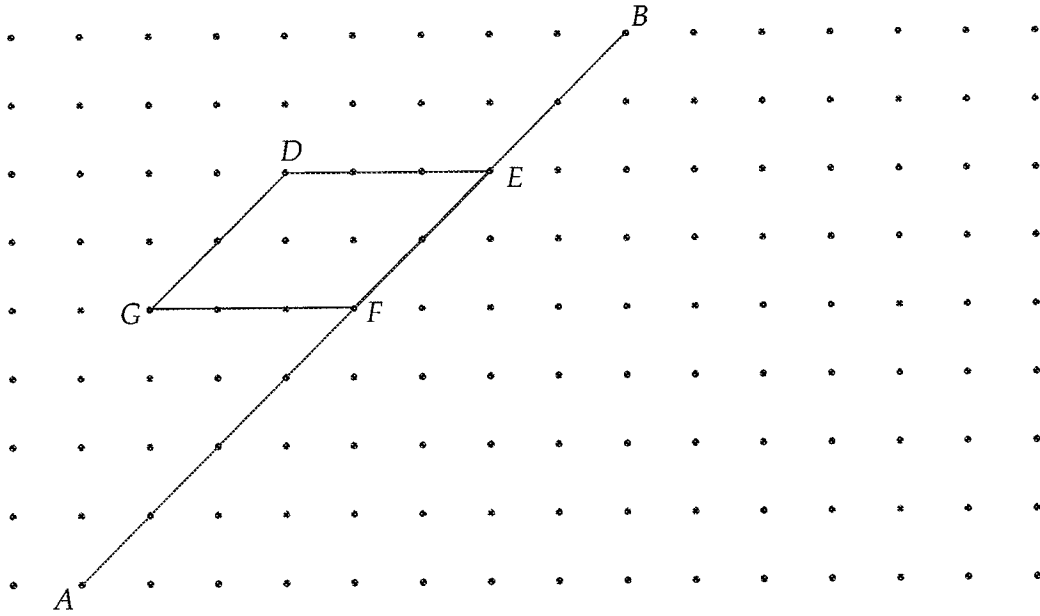
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6 Mark, on this scale, the probability of throwing a 'four' with one roll of a dice.

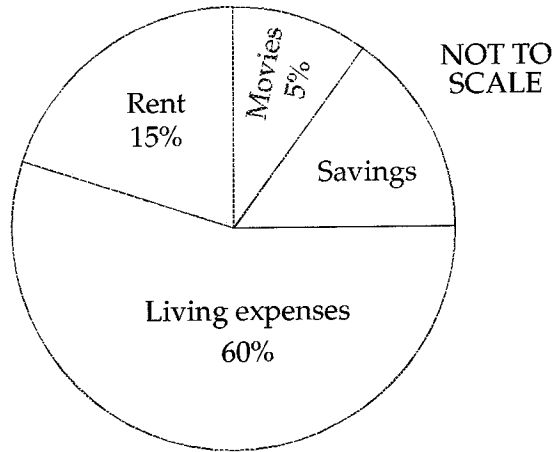


7 Reflect the parallelogram $DEFG$ in the line AB .



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 $\frac{3}{8}$?

.....

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 ?

.....

12 Evaluate 15×99 .

.....

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 $\frac{7!}{5!}$.

.....

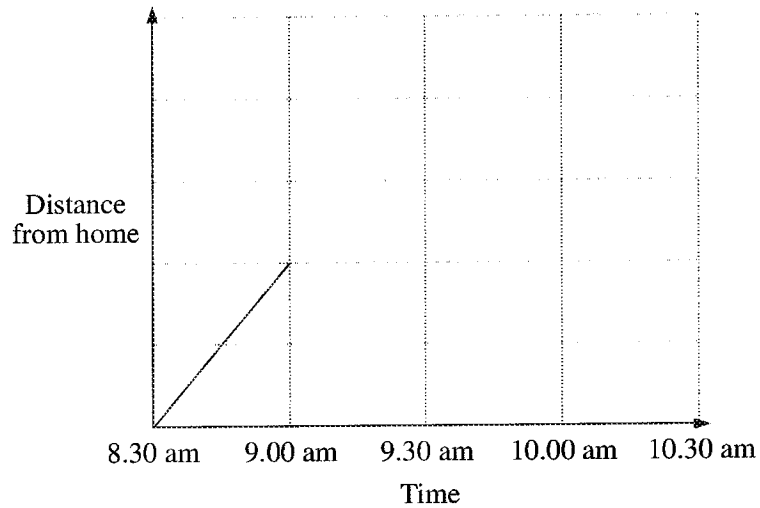
15

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.

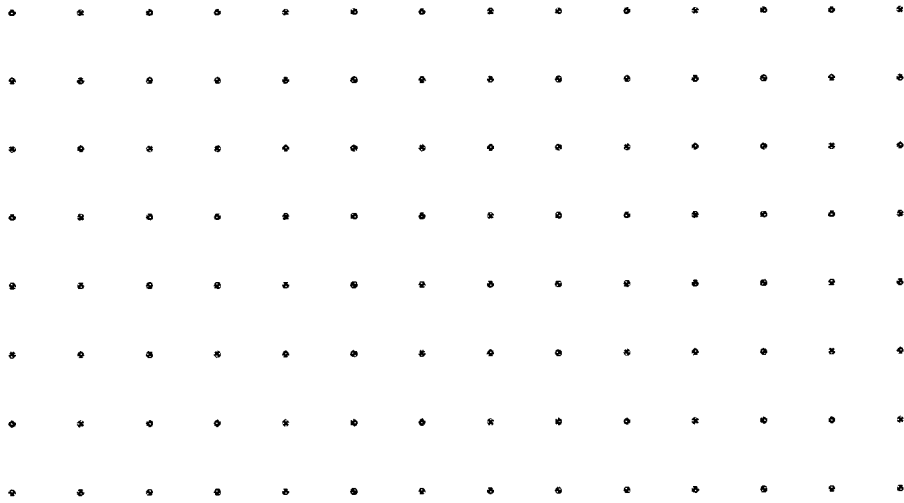


- 17 Write $\frac{2}{3}$ as a repeating decimal.

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.....

- 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 ψ 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

$$3^2 - 2^2 = 3 + 2 = 5$$

$$4^2 - 3^2 = 4 + 3 = 7$$

$$5^2 - 4^2 = 5 + 4 = 9$$

Use the pattern to complete:

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

- 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.

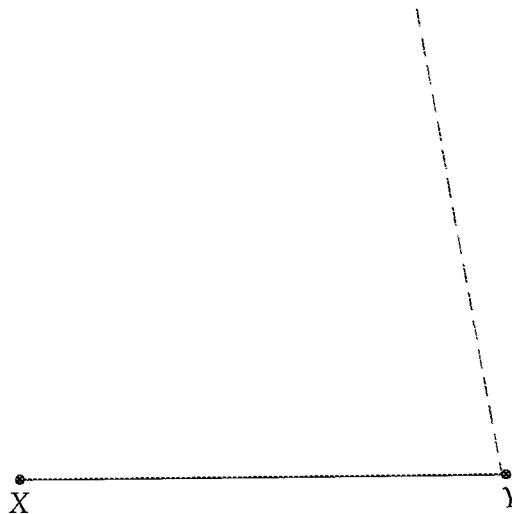
Given that 18 km/h is the same as 5 m/s, how far does Chris travel in one second?

.....
.....

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

- 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