

# Year 9 – Set Four

Name ..... Date .....

Answer these questions without using a calculator.

**1**

A recycling plant notices that 60% of the rubbish it recycles is waste paper.  
Of this waste paper, 75% is newspapers.

What percentage of **all** the rubbish that the plant recycles is newspaper?

 %

**2**

Some powers of 7 are listed below.

$$7^2 = 49 \quad 7^3 = 343 \quad 7^4 = 2401 \quad 7^6 = 117649 \quad 7^{12} = 13841287201$$

It follows that 13841287201 can **also** be expressed as

- $343^4$
- $117649^6$
- $343 \times 2401$
- $49 \times 117649$

**3**

A cheer squad has 10 T-shirts.

Each shirt has **one** of the letters of **MOOLOOLABA** printed on it.

A cheer squad member takes a shirt randomly from the box they are kept in.

What is the chance that the cheer squad member takes one of the shirts with an “O” on it?

1 in 10

1 in 5

2 in 5

4 in 5

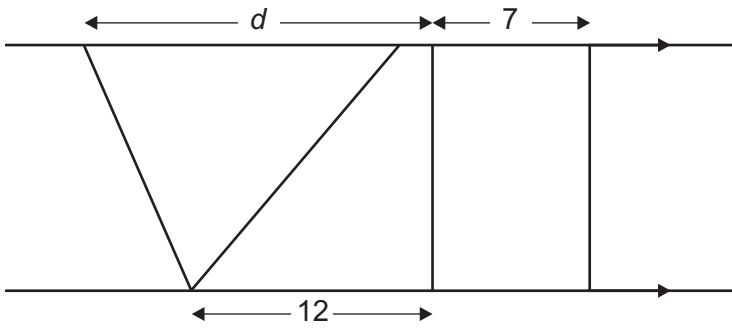
**4**

You can hire Nerdly’s Sound-and-Light Show for \$75 per hour.

How much time would you get for \$250?

- 3 hours and 20 minutes
- 3 hours and 25 minutes
- 3 hours and 30 minutes
- 3 hours and 33 minutes

5



The measurements in this diagram are all in centimetres.

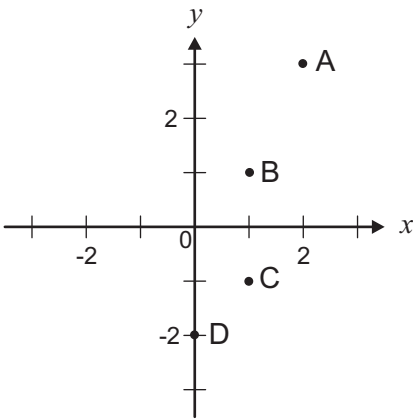
The areas of the triangle, trapezium and rectangle are all  $70 \text{ cm}^2$ .

What is the value of  $d$ ?

- 9
- 12
- 14
- 16

6

Which points would lie on the graph of  $y = 3x - 2$ ?



- A and B
- A and D
- B and D
- C and D

7

The scale on a map is 1:2500000.

This means that 1 cm on the map represents a real distance of

- 250 m.
- 2.5 km.
- 25 km.
- 250 km.

8

This table shows the values of  $y$  for some different values of  $x$  when  $y = 4 + x - 2x^2$ .

$x$	-3	-2	-1	0	1	2
$y$	-17	?	1	4	3	-2

What is the value of  $y$  when  $x = -2$ ?