

Please check the examination details below before entering your candidate information

Candidate surname					Other names				
Centre Number				Candidate Number					
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**Pearson Edexcel Level 1/Level 2 GCSE (9–1)**

**Wednesday 7 June 2023**


Morning (Time: 1 hour 30 minutes)	Paper reference	<b>1MA1/2F</b>
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**Mathematics**

**PAPER 2 (Calculator)**

**Foundation Tier**

**Shadow Set 1**



<b>You must have:</b> Ruler graduated in centimetres and millimetres, protractor, pair of compasses, pen, HB pencil, eraser, calculator, Formulae Sheet (enclosed). Tracing paper may be used.	Total Marks
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### Instructions

- Use **black** ink or ball-point pen.
- **Fill in the boxes** at the top of this page with your name, centre number and candidate number.
- Answer **all** questions.
- Answer the questions in the spaces provided – *there may be more space than you need.*
- You must **show all your working**.
- Diagrams are **NOT** accurately drawn, unless otherwise indicated.
- **Calculators may be used.**
- If your calculator does not have a  $\pi$  button, take the value of  $\pi$  to be 3.142 unless the question instructs otherwise.



### Information

- The total mark for this paper is 80.
- The marks for **each** question are shown in brackets – *use this as a guide as to how much time to spend on each question.*

### Advice

- Read each question carefully before you start to answer it.
- Keep an eye on the time.
- Try to answer every question.
- Check your answers if you have time at the end.

**Answer ALL questions.**

**Write your answers in the spaces provided.**

**You must write down all the stages in your working.**

**1** Write 16 734 correct to the nearest thousand.

.....  
**(Total for Question 1 is 1 mark)**

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**2** Write 0.9 as a fraction.

.....  
**(Total for Question 2 is 1 mark)**

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**3** Change 950 centimetres into metres.

..... metres  
**(Total for Question 3 is 1 mark)**

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**4** Simplify  $7 \times 2g$

.....  
**(Total for Question 4 is 1 mark)**

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**5** Here is a list of numbers.

60      75      90      120      150

One of these numbers is a multiple of 45

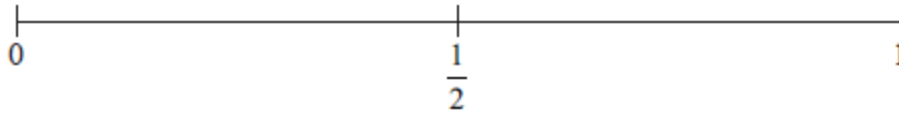
Which number?

.....  
**(Total for Question 5 is 1 mark)**

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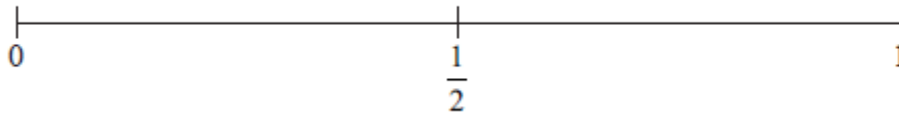
6 Susan has a fair ordinary dice.  
She rolls the dice once.

(a) On the probability scale, mark with a cross (×) the probability that Shari gets a number between less than 7.



(1)

(b) On the probability scale, mark with a cross (×) the probability that Susan gets an odd number.

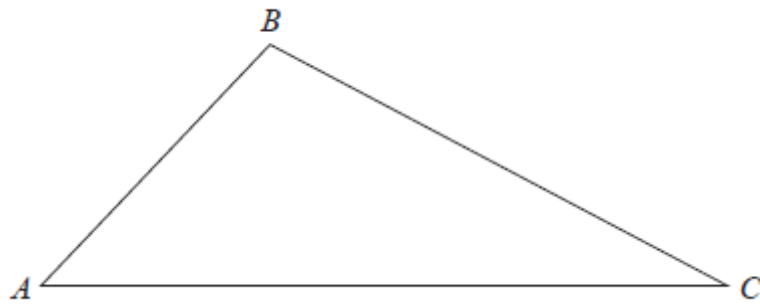


(1)

**(Total for Question 6 is 2 marks)**

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7 Here is a triangle.



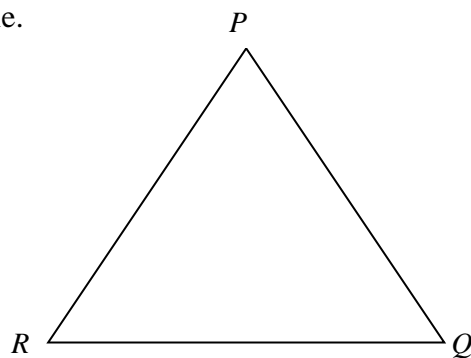
(a) Measure the length of  $BC$ .

..... cm  
(1)

(b) Measure the size of angle  $A$ .

.....°  
(1)

Here is a different triangle.



$$QP = QR = PR$$

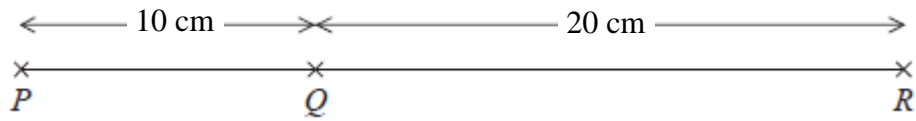
(c) Write down the mathematical name of this triangle.

.....  
(1)

**(Total for Question 7 is 3 marks)**

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8 The diagram shows three motorway service stations  $P$ ,  $Q$  and  $R$  on a map.



The map has a scale of  $1 \text{ cm} = 6 \text{ km}$ .

Work out the real distance from  $P$  to  $R$ .

..... km

**(Total for Question 8 is 3 marks)**

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9 Here are the first five terms of a sequence.

2      9      16      23      30

(a) Write down the next term of this sequence.

.....  
**(1)**

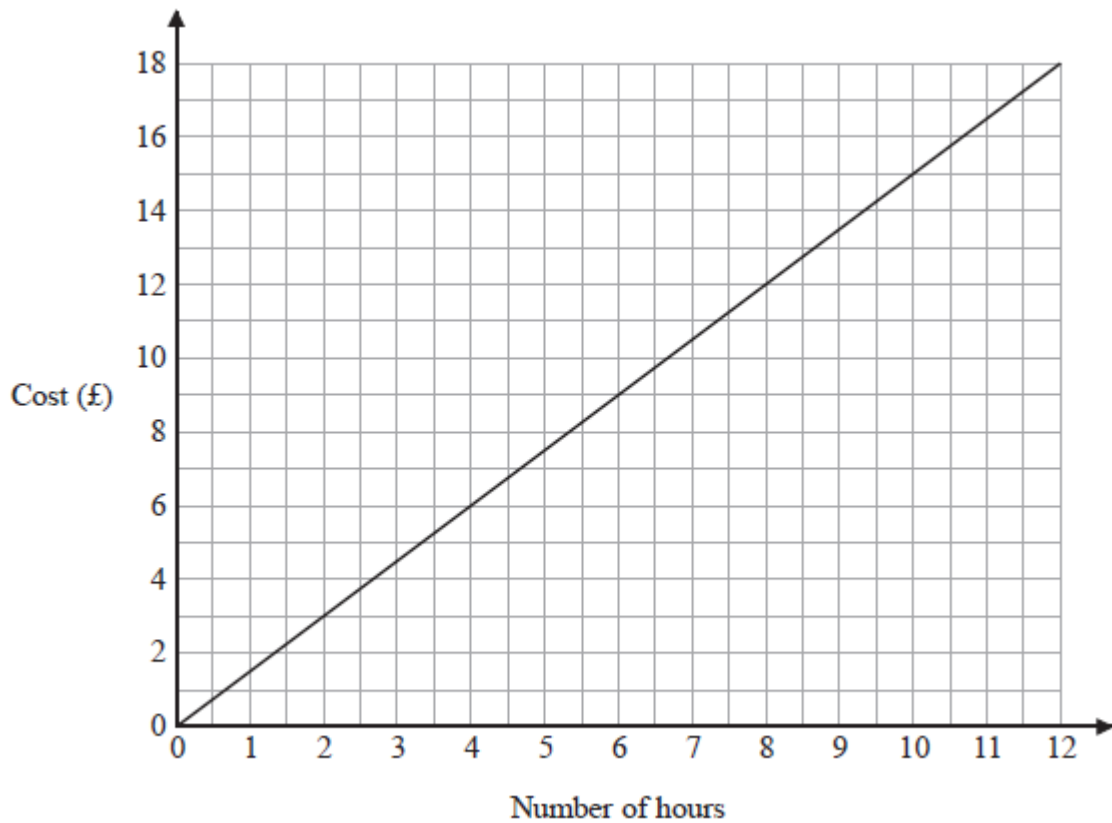
(b) Write down the ratio of the second term to the fifth term.  
Give your ratio in its simplest form.

.....  
**(2)**

**(Total for Question 9 is 3 marks)**

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10 This graph can be used to find the cost of hiring a boat on a lake for up to 12 hours.



(a) Use the graph to find the cost of hiring a boat for 6 hours.

£.....  
(1)

Michael hires a boat at 09 00 in the morning.  
When he returns the boat he has to pay £12

(b) At what time does Michael return the boat?

.....  
(3)

**(Total for Question 10 is 4 marks)**

**11** The table shows information about the weights of the people in a gymnasium.

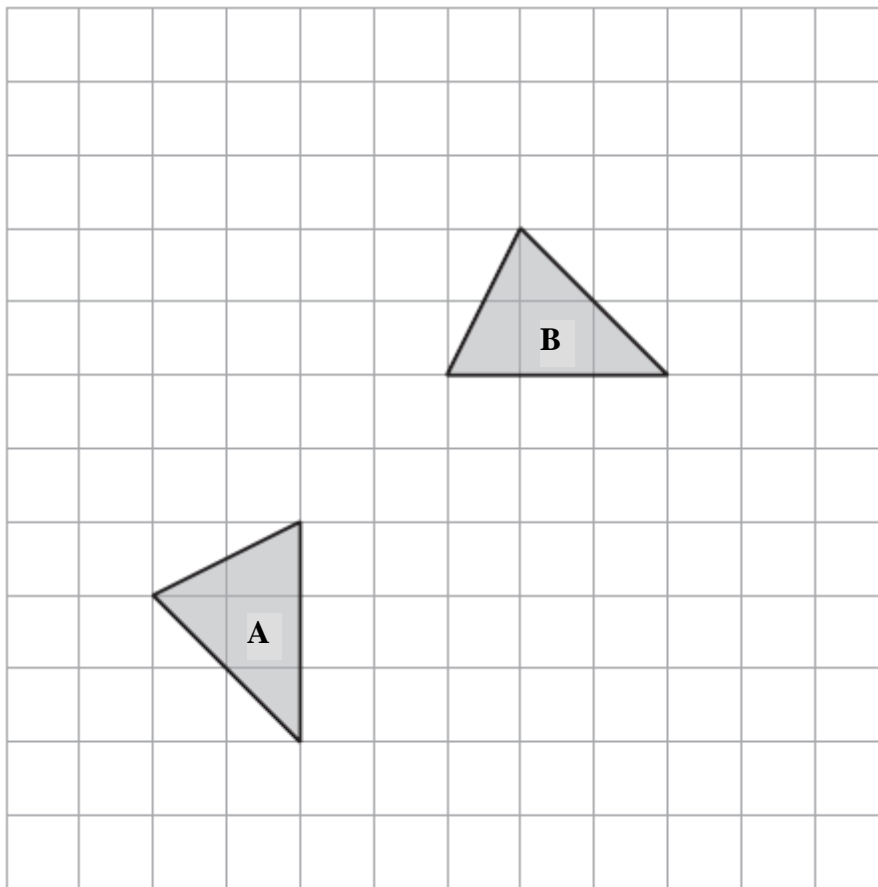
<b>Weight</b>	<b>Number of people</b>
40 kg	2
50 kg	3
60 kg	5
70 kg	6
80 kg	4
90 kg	2

Show that the total weight of the people in the gymnasium is more than 1500 kg.

**(Total for Question 11 is 3 marks)**

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12 Shape **A** is reflected in a mirror line to give shape **B**.

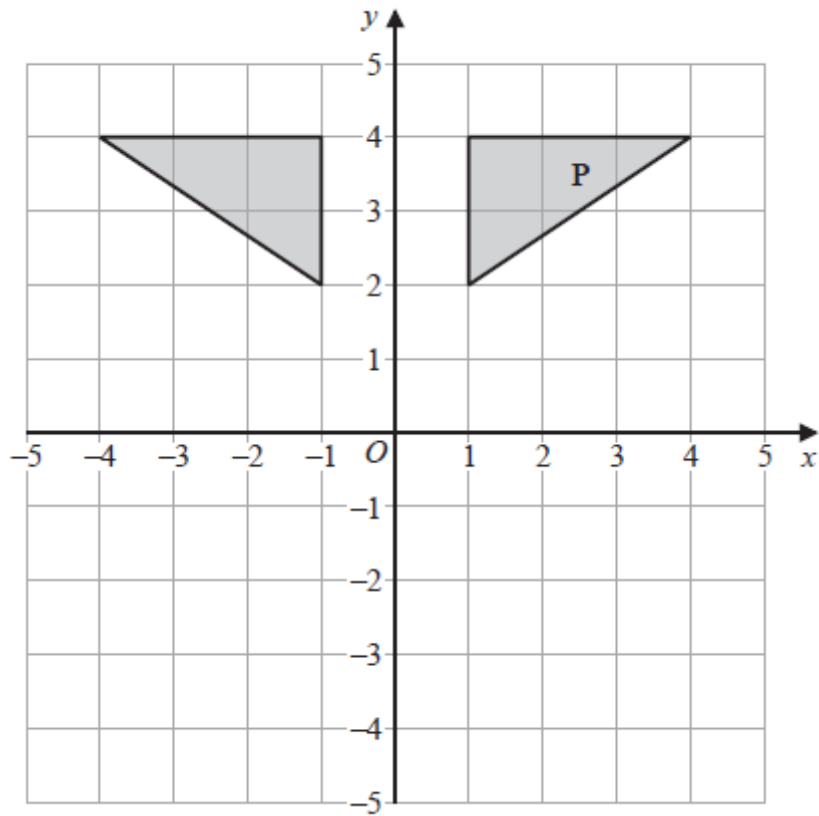


(a) On the grid, draw the mirror line.

(1)



- (b) Andrew is asked to reflect shape **P** in the  $x$ -axis.  
Here is the diagram Andrew draws.



Explain the mistake Andrew has made.

.....

.....

.....

(1)

(Total for Question 12 is 2 marks)

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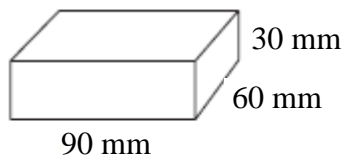
**13** There are 65 doctors in a hospital.  
This is  $\frac{1}{15}$  of the total number of people in the hospital.

Work out the total number of people in the hospital.

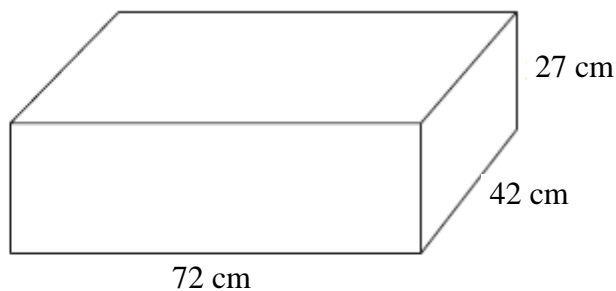
.....  
**(Total for Question 13 is 2 marks)**

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14 Bricks are put into crates.



Brick



Crate

Each brick is a cuboid, 90 mm by 60 mm by 30 mm.

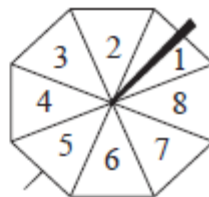
Each crate is a cuboid, 72 cm by 42 cm by 27 cm.

Work out the greatest number of bricks that can be put into each crate.

.....  
**(Total for Question 14 is 4 marks)**

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15 Here is a fair ordinary dice and a fair 8-sided spinner.



Sammy throws the dice once and spins the spinner once.

Is Sammy more likely to get

- a number less than 5 on the dice
- or** a number greater than 3 on the spinner?

You must show all your working.

**(Total for Question 15 is 3 marks)**

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- 16** David drives at an average speed of 44 km/h for 2 hours 15 minutes.  
Work out the distance David drives.

..... km

**(Total for Question 16 is 3 marks)**

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**17** There are 4 theatres **A**, **B**, **C** and **D**.

The mean number of seats per theatre is 380

There are 375 seats in theatres **A**.

There are 225 seats in theatres **B**.

There are 470 seats in theatres **C**.

Work out the number of seats in theatres **D**.

.....  
**(Total for Question 17 is 4 marks)**

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**18** Aston buys 270 chocolate bars.

The chocolate bars are sold in packs.  
There are 15 chocolate bars in each pack.  
Each pack costs £4

(a) Work out the total cost of the chocolate bars Aston buys.

£.....  
**(3)**

Ellie buys 36 cartons of juice for £25  
There are 350 ml of juice in each carton.

(b) Work out the cost of 200 ml of juice.  
Give your answer correct to the nearest penny.

.....p  
**(3)**

**(Total for Question 18 is 6 marks)**

19 140 people attend an open air concert.

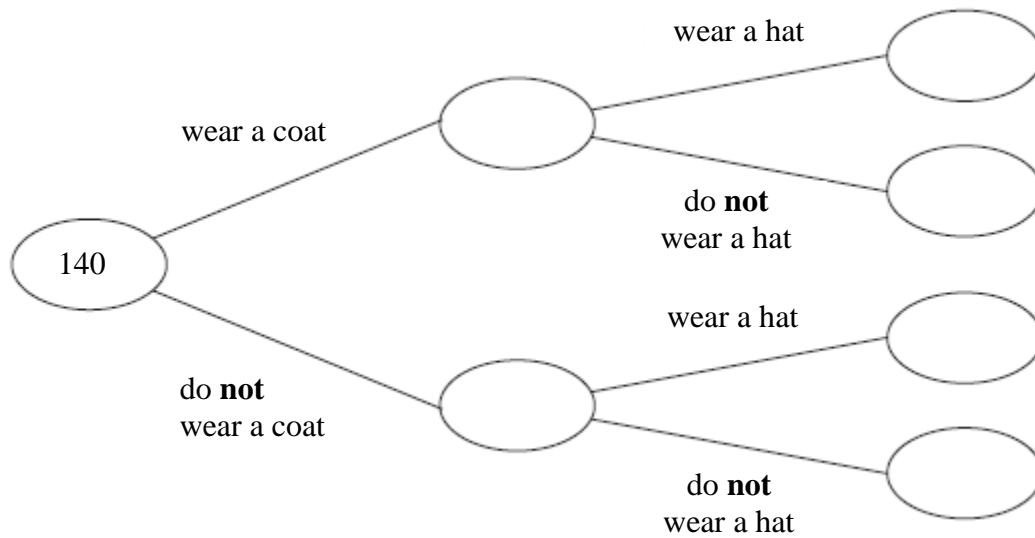
Of these people

80 wear a coat

35 wear a hat

25 of the people who wear a hat do **not wear** a coat.

(a) Use this information to complete the frequency tree.



(3)

(b) What percentage of the 80 people who wear a coat do **not** wear a hat?

.....%  
(2)

(Total for Question 19 is 5 marks)



**20** (a) Work out the value of  $\frac{\sqrt{1577} - 32}{2.3^2 - 5}$

Write down all the figures on your calculator display.

.....  
(2)

(b) Work out the value of the reciprocal of 0.8

.....  
(1)

**(Total for Question 20 is 3 marks)**

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21 Write 84 as a product of its prime factors.

.....  
**(Total for Question 21 is 2 marks)**

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22 There are 48 counters in a bag.  
There are only blue counters and green counters in the bag.

$$\text{number of blue counters} : \text{number of green counters} = 1 : 3$$

Hermione has to work out how many blue counters are in the bag.

She says,

“There are 16 blue counters in the bag because 1 is a third of 3 and 16 is a third of 48”

Is Hermione correct?

You must give a reason for your answer.

.....  
.....  
.....  
**(Total for Question 22 is 1 mark)**

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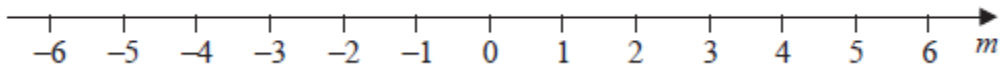
**23**  $-3 < n \leq 7$

$n$  is an integer.

(a) Write down the greatest possible value of  $n$ .

.....  
(1)

(b) On the number line below, show the inequality  $-5 < m \leq 2$



(2)

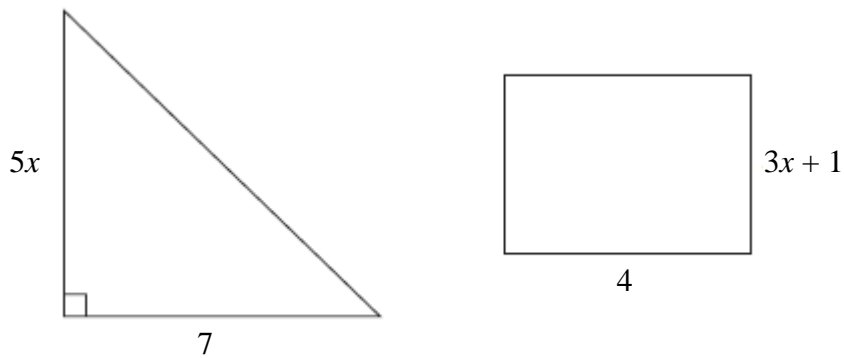
(c) Solve  $\frac{4}{5}h - 6 < 10$

.....  
(3)

**(Total for Question 23 is 6 marks)**

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24 Here is a triangle and a rectangle.



All measurements are in centimetres.

The area of the triangle is  $18 \text{ cm}^2$  greater than the area of the rectangle.

Work out the value of  $x$ .

$x = \dots\dots\dots$

**(Total for Question 24 is 4 marks)**

- 25 Last month a farmer sold 900 kg of vegetables.  
65% of these vegetables were turnips and parsnips.

$$\text{weight of turnips} : \text{weight of parsnips} = 9 : 4$$

Calculate the weight of parsnips the farmer sold.

..... kg

**(Total for Question 25 is 3 marks)**

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- 26 A number,  $d$ , is rounded to 2 decimal places.  
The result is 2.73

Complete the error interval for  $d$ .

$$\dots\dots\dots \leq d < \dots\dots\dots$$

**(Total for Question 26 is 2 marks)**

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- 27 Ronnie buys a house with a value of £280 000  
The value of Ronnie's house increases by 2.5% each year.

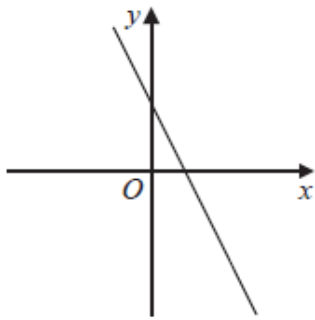
Tom buys a house with a value of £260 000  
The value of Tom's house increases by 6% each year.

At the end of 2 years, whose house has the greater value?  
You must show how you get your answer.

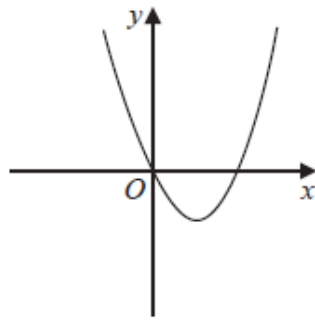
**(Total for Question 27 is 4 marks)**

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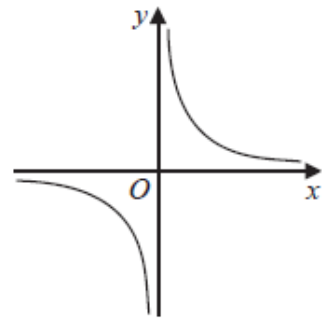
28 Here are five graphs.



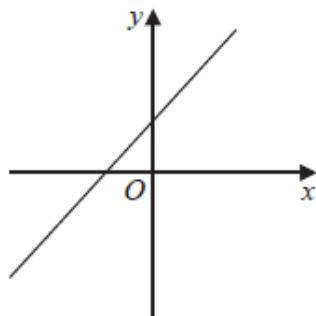
A



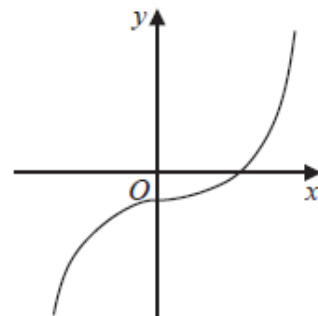
B



C



D



E

Equation	Graph
$y = \frac{2}{x}$	
$y = x + 4$	
$y = 6 - 3x$	
$y = x^3 - 3$	
$y = x^2 - 3x$	

Match the letter of each graph with its equation.

(Total for Question 28 is 3 marks)

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**TOTAL FOR PAPER IS 80 MARKS**