

Summer Assessment

# Year 9

## Mathematics

**Foundation:** No calculator allowed

Time allowed: 45 minutes

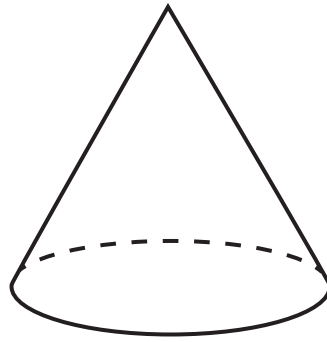
First name						
Middle name						
Last name						
Date of birth	Day		Month		Year	
Teacher						

These assessments have been designed by White Rose Maths.  
For more information, please visit [www.whiterosemaths.com](http://www.whiterosemaths.com)



1

Write down the mathematical name of this 3-D shape.



\_\_\_\_\_ 1 mark

2

A bike costs £180

The cost of the bike is reduced by 10% in a sale.

What is 10% of £180?

£

\_\_\_\_\_ 1 mark

What is the cost of the bike in the sale?

£

\_\_\_\_\_ 1 mark

Liam pays for the bike in 6 equal monthly payments.

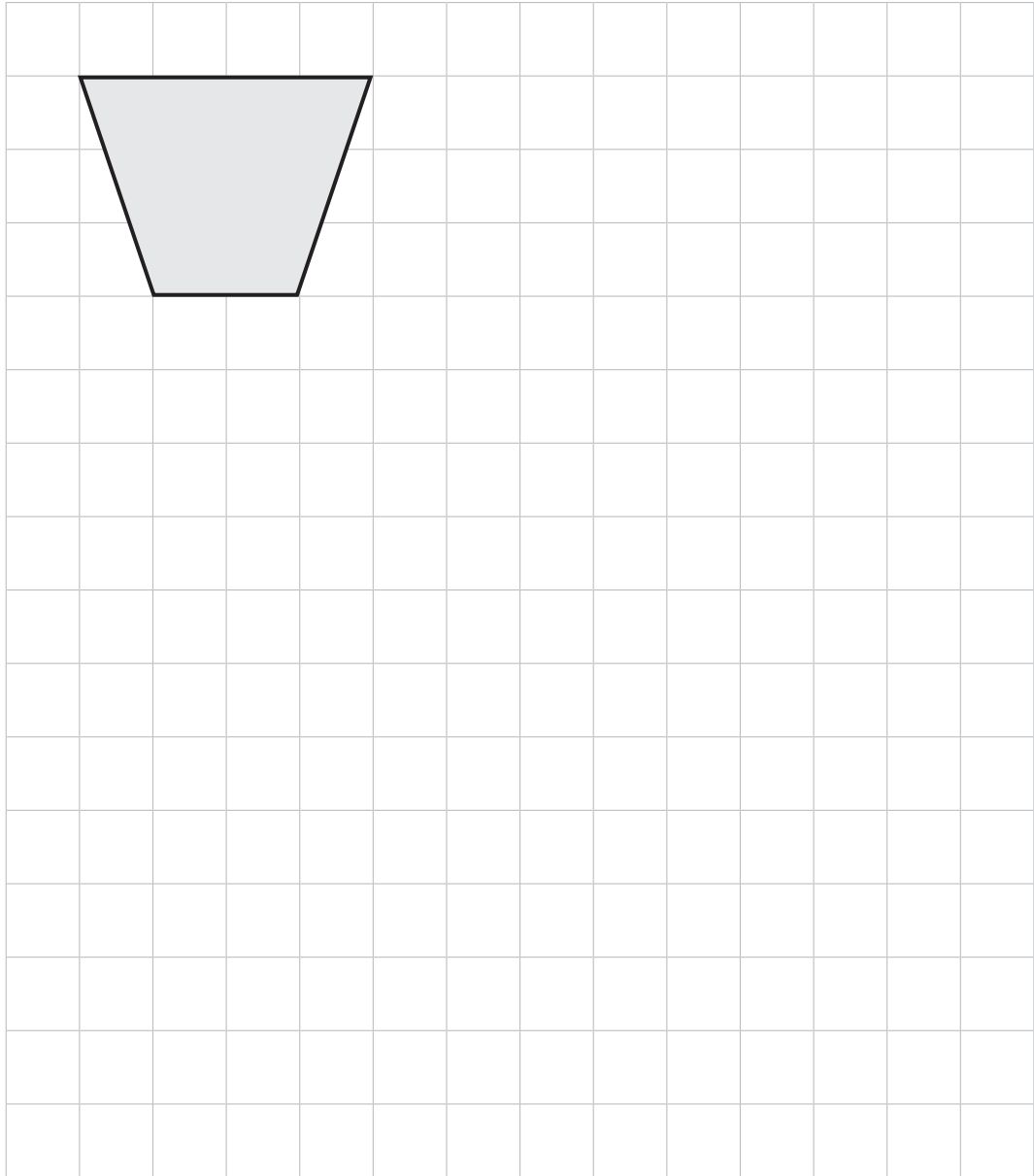
How much does he pay each month?

£

\_\_\_\_\_ 1 mark

3

Enlarge the shape by scale factor 2



2 marks

**4**

Match each equation to its solution.

$$2x = 15$$

$$x = 12$$

$$10 - x = 7$$

$$x = 7.5$$

$$\frac{x}{2} = 6$$

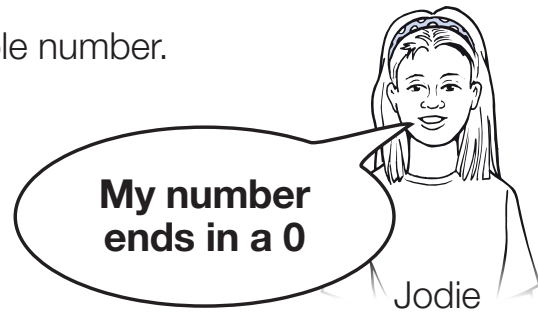
$$x = 3$$

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2 marks

5

Jodie writes down a 5-digit whole number.



Is Jodie's number a multiple of 5?

**Yes**

**No**

Circle your answer.  
Explain how you know.

1 mark

Jodie divides her number by 2

Will her answer be a whole number?

**Yes**

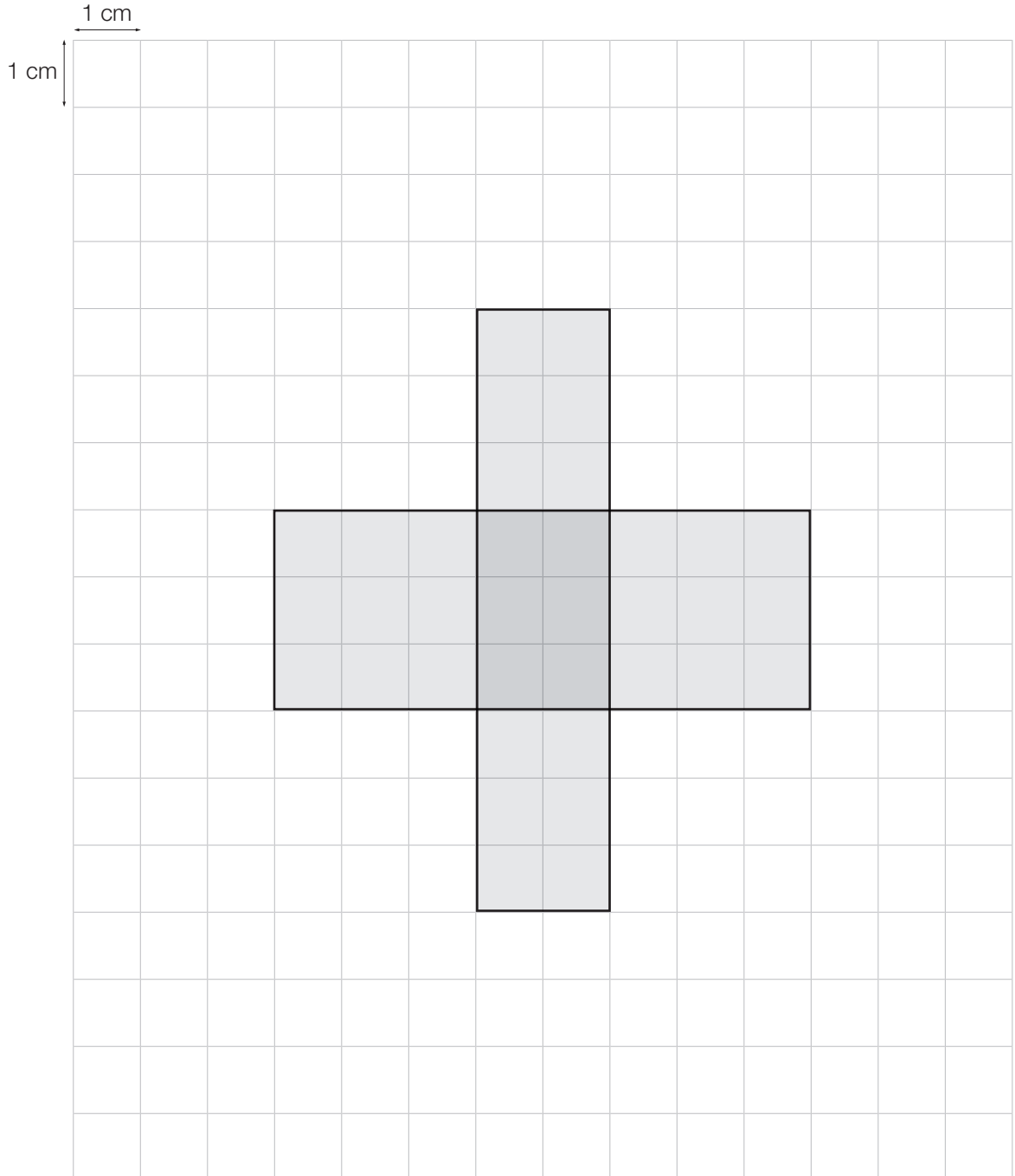
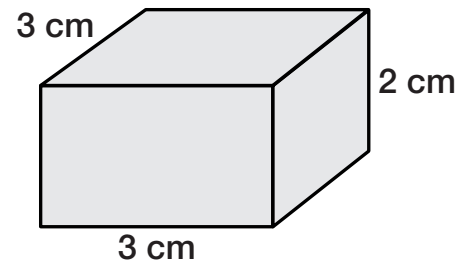
**No**

Circle your answer.  
Explain how you know.

1 mark

6

Trudy is drawing a net of this cuboid.  
Here is her attempt.



Explain how you know the net is not complete.

1 mark

Complete the net of the cuboid.

1 mark

What is the volume of the cuboid?

$\text{cm}^3$

1 mark

**7**

Complete the calculations.

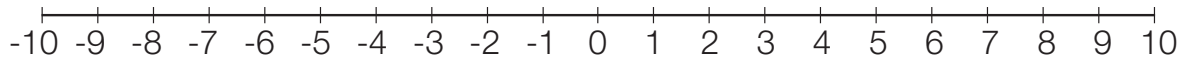
You may use the number line to help you.

$$-5 + 9$$

1 mark

$$-2 + -6$$

1 mark

**8**

A plane travels 3000 miles in 6 hours.

Work out the speed of the plane.

2 marks



9

On Tuesday Esther works from 8 a.m. to 2 p.m.

Esther earns £11.50 per hour.

How much does she earn on Tuesday?

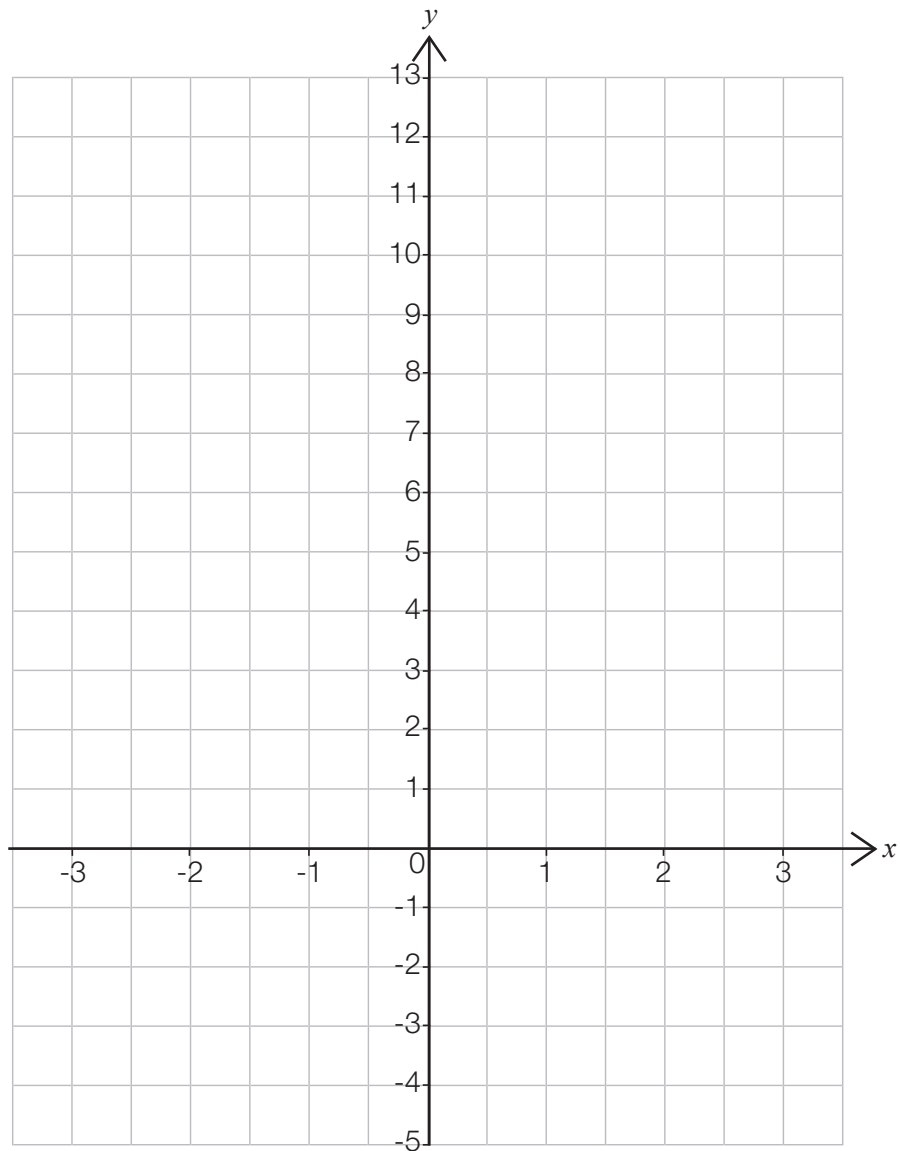
£

2 marks

**10**Complete the table of values for the equation  $y = 2x + 5$ 

<b><i>x</i></b>	-3	-2	-1	0	1	2	3
<b><i>y</i></b>	-1		3		7	9	11

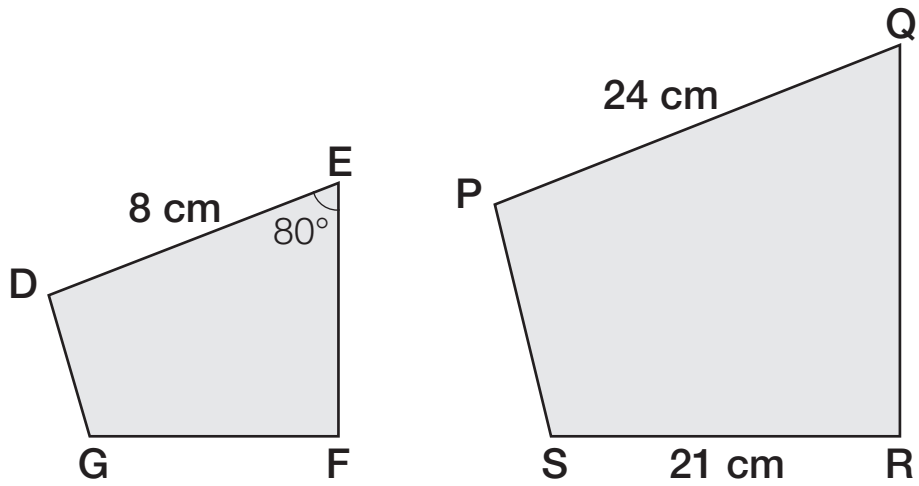
1 mark

On the grid below, draw the graph of the equation  $y = 2x + 5$ 

2 marks

11

Quadrilaterals DEFG and PQRS are similar.



*Diagrams not drawn accurately*

Work out the length of GF.

cm

2 marks

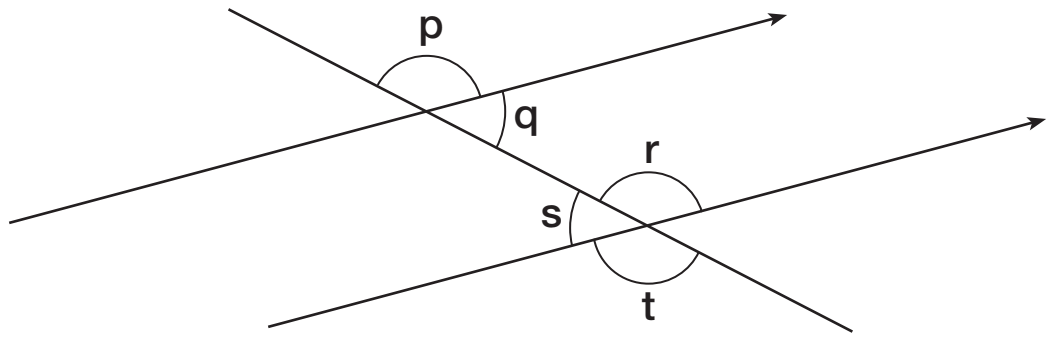
Write down the size of angle PQR.

o

1 mark

12

Some angles have been marked in the following diagram.



Write down two angles that are equal.

\_\_\_\_\_ and \_\_\_\_\_ 1 mark

Write down two angles that sum to 180 degrees.

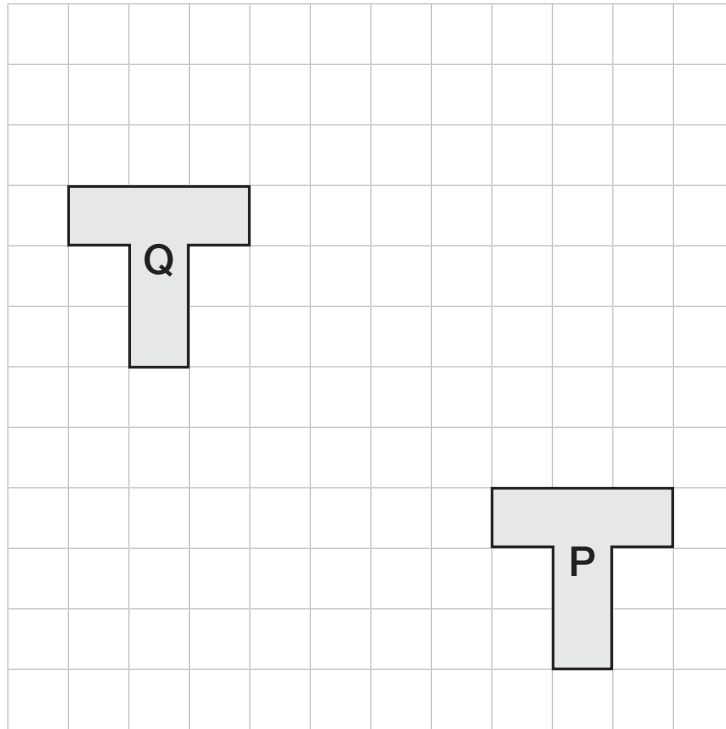
\_\_\_\_\_ and \_\_\_\_\_ 1 mark

13

The probability that a seed grows into a flower is 0.8  
40 seeds are planted.

Estimate the number of seeds that grow into flowers.

2 marks

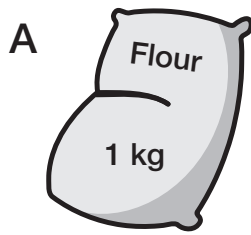


Describe the translation that will map shape P to shape Q.

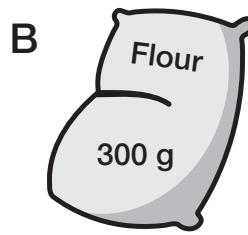
2 marks

15

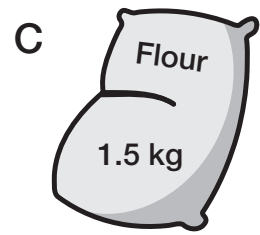
A shop sells flour in three different sized packets.



£1.75



50p



£2.40

Which packet of flour is best value for money?

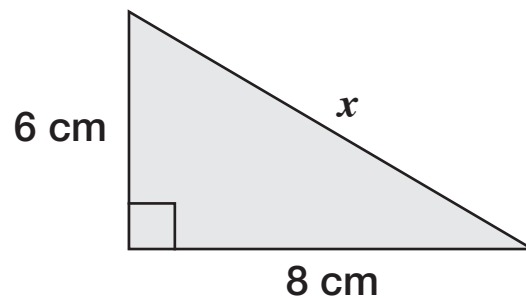
Show working to justify your answer.

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3 marks

**16**

Here is a right-angled triangle.



Work out the length of the side labelled  $x$ .

cm

2 marks

**17**

A coin is thrown and a dice is rolled.

Which of the calculations gives the probability that the coin lands on tails and the dice lands on 3?

$$\frac{1}{2} \times \frac{1}{6}$$

$$\frac{1}{2} + \frac{1}{6}$$

$$\frac{1}{2} - \frac{1}{6}$$

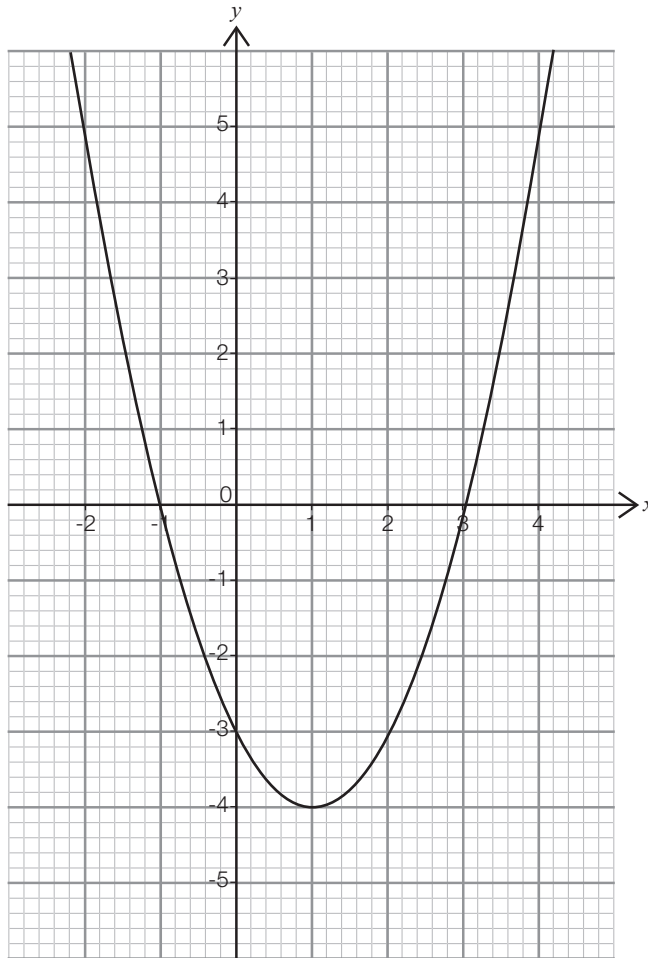
$$\frac{1}{2} \div \frac{1}{6}$$

Tick your answer.

1 mark

18

Here is the graph of  $y = x^2 - 2x - 3$



Use the graph to estimate the value of  $y$  when  $x = 1.5$

1 mark

Use the graph to estimate the values of  $x$  when  $y = 1.5$

and

2 marks

**END OF TEST**