

Year 9

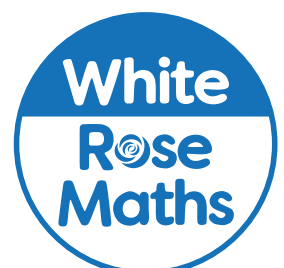
Mathematics

Core: Calculator allowed

Time allowed: 45 minutes

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

This assessment has been designed by White Rose Maths.
For more information, please visit www.whiterosemaths.com



1

Draw an angle of 73° from point A.

A ————— B

1 mark

2

Which of the points lies on the line $y = 4 - 5x$?

Circle your answer.

(3, 11) (3, 7) (3, 19) (3, -11) (3, -19)

1 mark

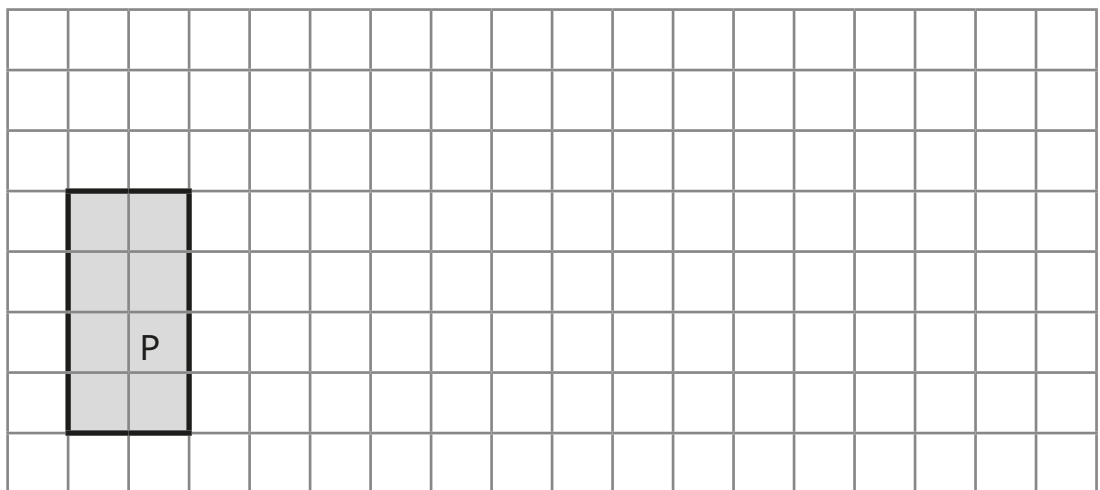
3

Write 276 as a product of its prime factors.

2 marks

4

Enlarge shape P by scale factor $\frac{1}{2}$



2 marks

5

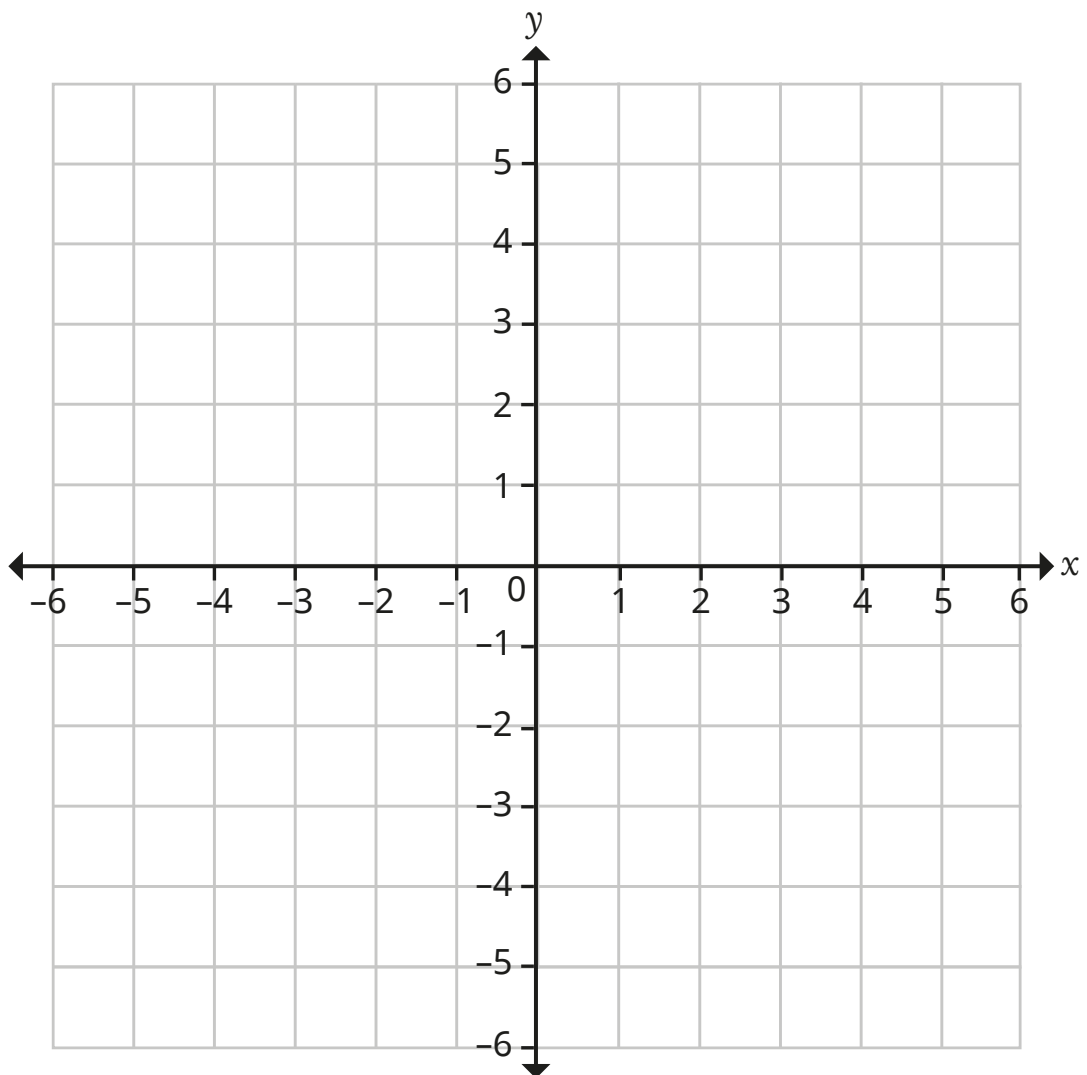
Circle all the rational numbers in the list.

$\sqrt{1}$ $\sqrt{2}$ $\sqrt{3}$ $\sqrt{4}$ π $\frac{1}{2}$

2 marks

6

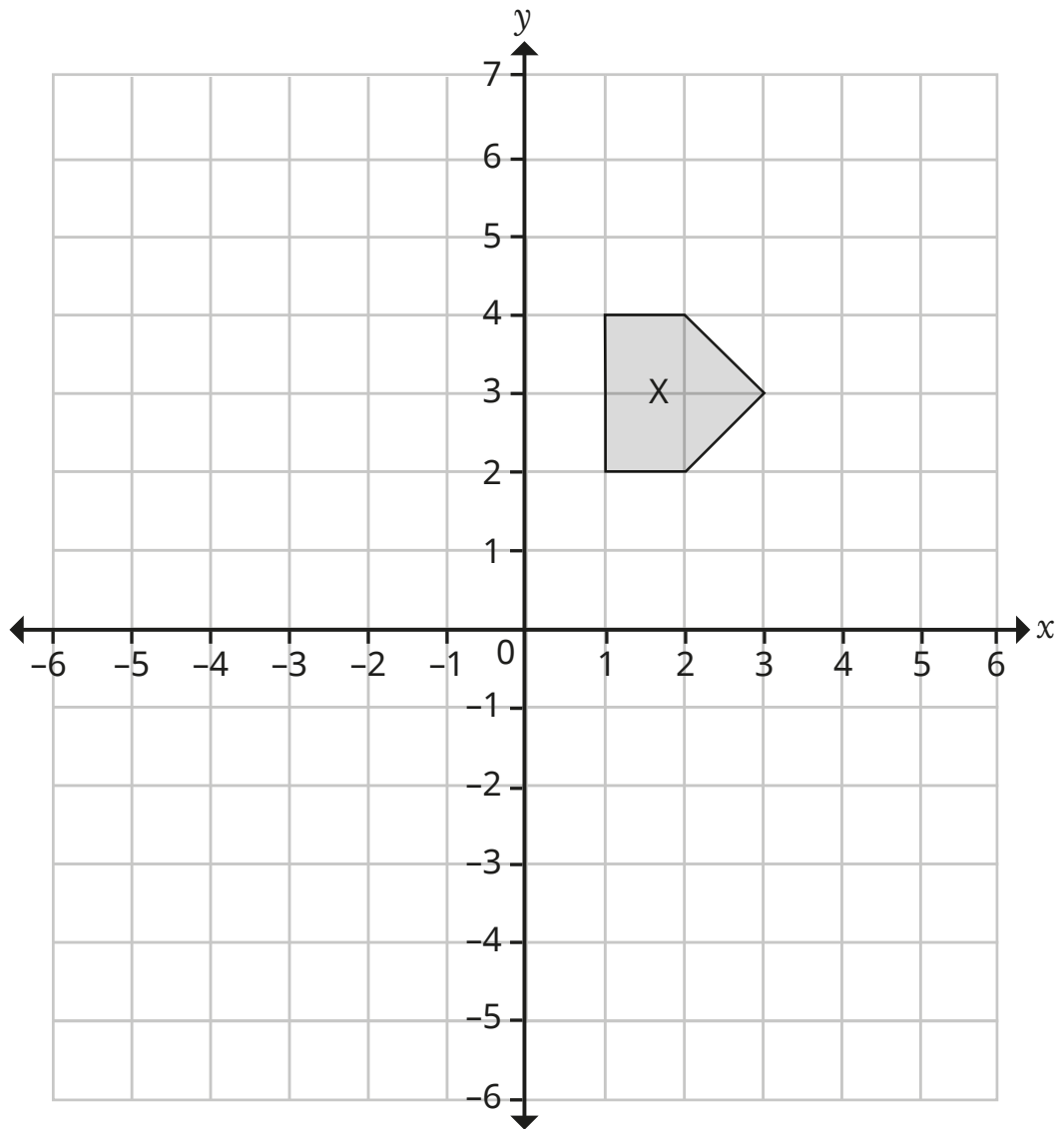
Draw the graph of $x = 4$



1 mark

7

Rotate shape X 180° about the origin.



2 marks

8

The total age of Teddy and his two sisters is 41
Teddy is 15
His sisters are the same age as each other.

How old are Teddy's sisters?

2 marks

9

A shop reduces the prices of all items by 35%.
The reduced price of a jumper is £77.35

Work out the full price of the jumper.

2 marks

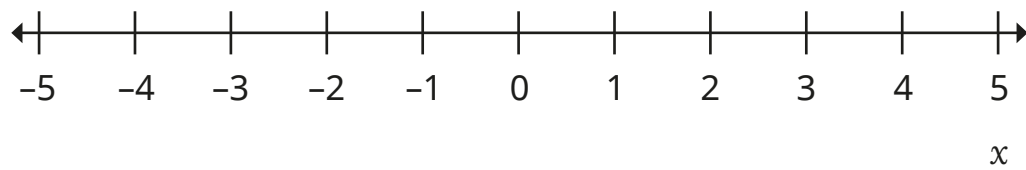
10

Solve the inequality.

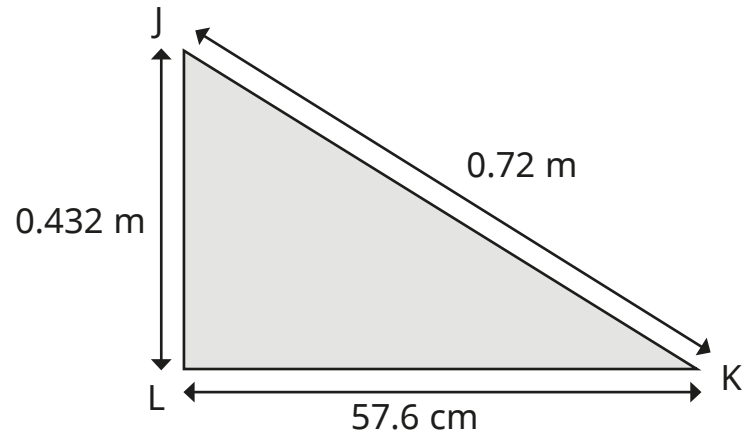
$$7 < 4x + 11$$

2 marks

Represent your solution on the number line.



1 mark



Is JKL a right-angled triangle?

Circle your answer.

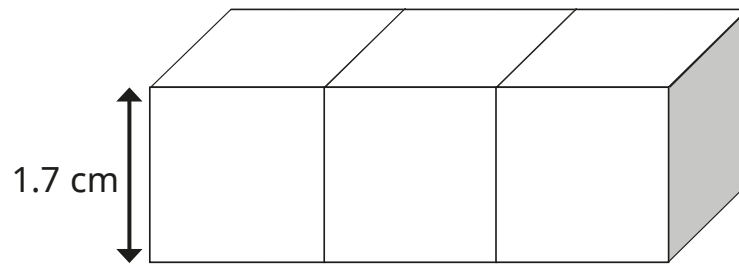
Yes

No

Show working to justify your answer.

12

Three congruent cubes are arranged as shown to form a cuboid.



The volume of the cuboid is three times the volume of the cube.

Is the statement true or false?

Circle your answer.

True

False

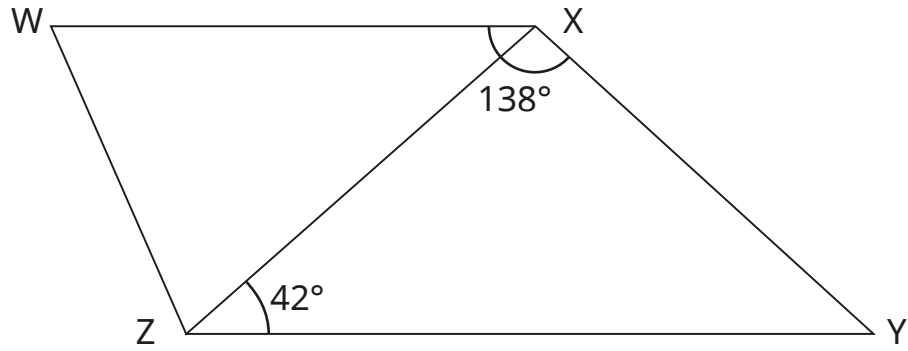
Explain your reasoning.

1 mark

Show that the surface area of the cuboid is **not** three times the surface area of the cube.

2 marks

13



XYZ is an isosceles triangle such that $XZ = XY$.

Show that $WXYZ$ is a trapezium.

Give reasons to support your answer.

3 marks

14

ABCD and EFGH are mathematically similar.

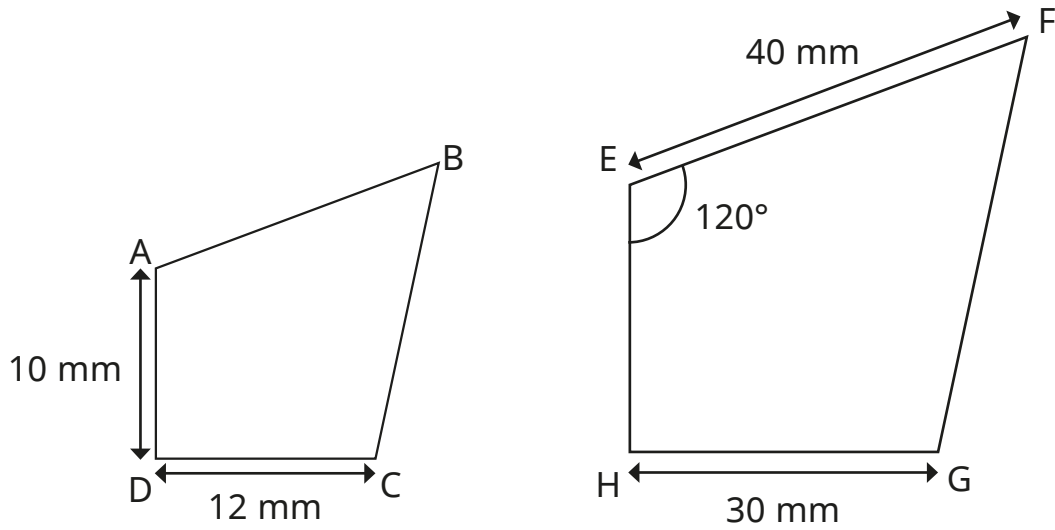


diagram not drawn accurately

Write down the size of angle DAB.

1 mark

Calculate the length of AB.

2 marks

15

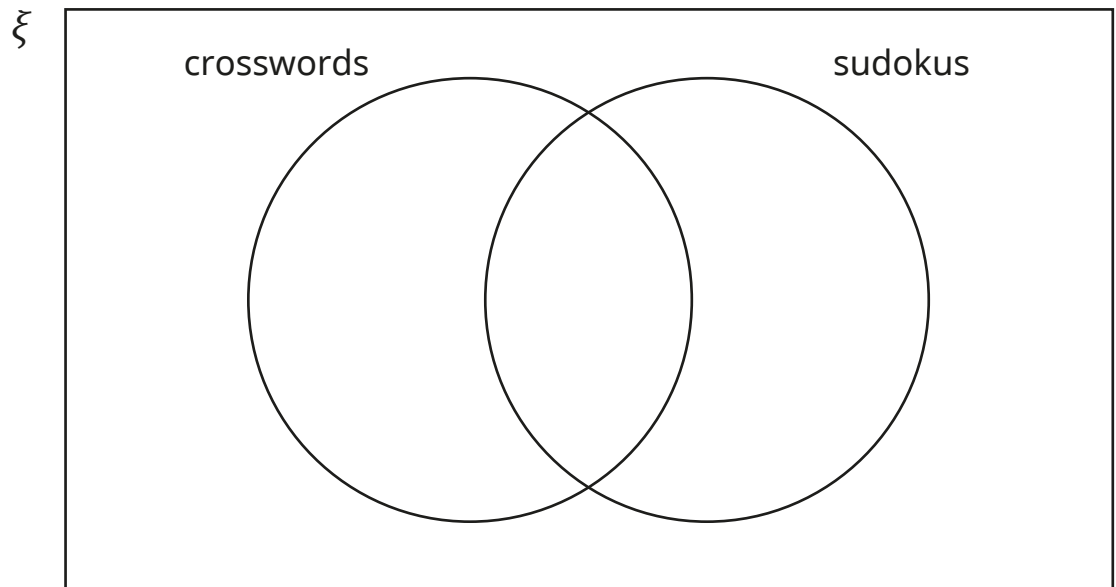
400 people were asked whether they like crosswords or sudokus.

160 people like crosswords.

195 people like sudokus.

90 people like both.

Complete the Venn diagram to show this information.



2 marks

One of the people is chosen at random.

Find the probability that they like neither crosswords nor sudokus.

1 mark

16

The distance between junction 16 and junction 24 on a motorway is 34 miles.

The speed limit on the motorway is 70 mph.

It takes Mr Patel 29 minutes to drive from junction 16 to junction 24

Is he travelling within the speed limit?

Circle your answer.

Yes

No

Show working to support your answer.

2 marks

17

This is how UK income tax is calculated.

The first £12 500 of income per year is tax free.

The next £37 500 is taxed at 20%.

The next £100 000 is taxed at 40%.

Any further income is taxed at 45%.

Mrs Fisher earns £85 000 per year.

Work out how much tax she pays.

£

3 marks

18

The mass of a piece of rope is directly proportional to its length.
The mass of a 30 cm piece of rope is 50 g.

Calculate the mass of a piece of rope that is 0.75 m long.



3 marks

END OF TEST

BLANK PAGE

Please do not write on this page.