

Year 8

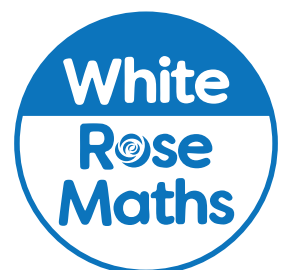
Mathematics

Core: Calculator allowed

Time allowed: 45 minutes

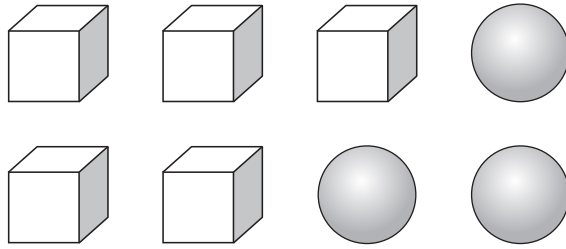
First name						
Middle name						
Last name						
Date of birth	Day		Month		Year	
Teacher						

These assessments have been designed by White Rose Maths.
For more information, please visit www.whiterosemaths.com



1

Here are some cubes and spheres.



What is the ratio of cubes to spheres?

1 mark

What is the ratio of spheres to cubes?

1 mark

What fraction of the shapes are cubes?

1 mark

2

Tick (✓) all the statements that are true.

$$4 \times \frac{1}{6} = \frac{1}{6} + \frac{1}{6} + \frac{1}{6} + \frac{1}{6}$$

$$4 \times \frac{1}{6} = \frac{4}{6}$$

$$4 \times \frac{1}{6} = \frac{4}{24}$$

$$4 \times \frac{1}{6} = 2 \times \frac{1}{3}$$

2 marks

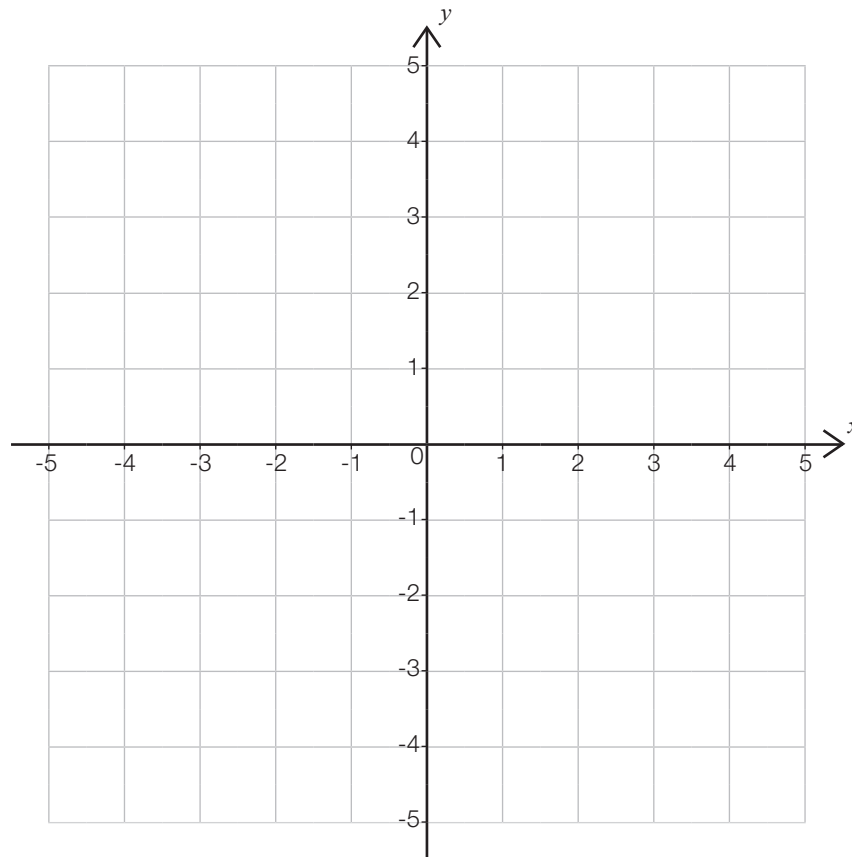
3

Plot the following points on the grid.

$A(3, 4)$

$B(3, -1)$

$C(-2, 4)$



2 marks

Plot point D to make ABCD a square.

1 mark

4

A circle has radius 5 cm.

Taking $\pi = 3.14$, work out the circumference of the circle.

_____ cm

2 marks

5

Circle the cards that show expressions that can be simplified.

$$3a + 4a$$

$$3a + 4$$

$$7a - a$$

$$3a + 4b$$

$$3a^2 + a$$

1 mark

I pick one of the cards at random.

What is the probability the expression on the card can be simplified?

_____ 1 mark

6

The recipe makes 4 muffins.

Flour	250 g
Eggs	1
Sugar	100 g
Butter	75 g

How much of each ingredient is needed for 12 muffins?

Flour

g

Eggs

Sugar

g

Butter

g

2 marks

Sam wants to make 2 muffins.

His mum says this would be difficult.

Explain why.

1 mark

7

Tommy says,

“The point (5, 4) lies on the line $y = x$ ”

Is Tommy correct?

Circle your answer.

Yes

No

Explain your reasoning.

1 mark

Dora says,

“The line $y = 6 - 2x$ passes through the point (2, 2)”

Is Dora correct?

Circle your answer.

Yes

No

Explain your reasoning.

1 mark

8

£1 buys \$1.25

Maz changes £200 into dollars.

How many dollars will he get?

\$

1 mark

\$1 buys 60p

Maz changes \$30 back into pounds.

How many pounds will he get?

£

2 marks

9

Here is a table showing the heights in metres of 80 trees.

Height (m)	Frequency
$0 < h \leq 10$	6
$10 < h \leq 20$	8
$20 < h \leq 30$	23
$30 < h \leq 40$	9
$40 < h \leq 50$	34

In which class interval would a 10 m tall tree be placed?

1 mark

How many trees are more than 30 m tall?

1 mark

10

Theo flips two coins.



Coin 1



Coin 2

Write down all the possible outcomes.

1 mark

What is the probability that both coins show 'heads'?

1 mark

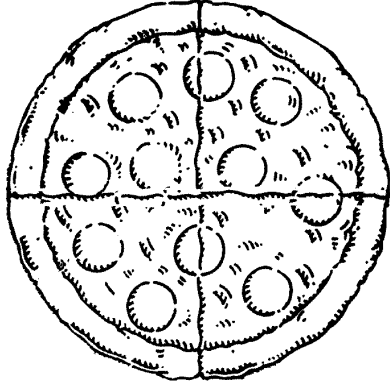
11

Ziki buys a full pizza.

She eats $\frac{1}{4}$ of the pizza.

She cuts the rest of the pizza into six equal slices.

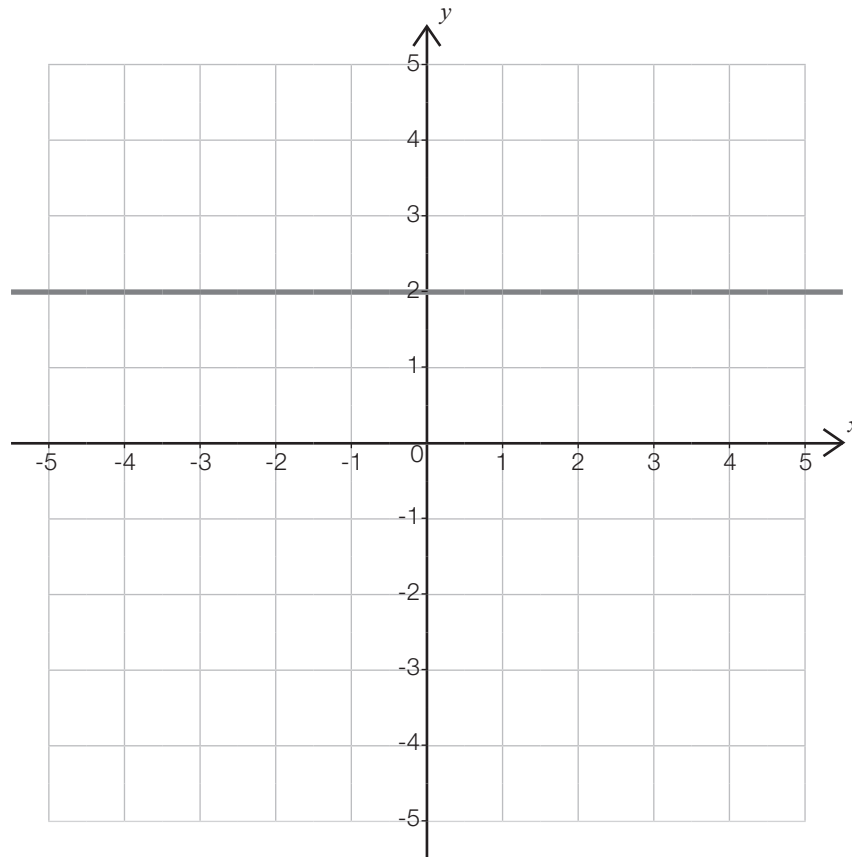
What fraction of the original pizza is each new slice?



2 marks

12

A straight line has been drawn on the grid.



What is the equation of the line?

1 mark

Draw the line $y = -2$ on the grid.

1 mark

13

In a school there are 875 students.

$\frac{3}{5}$ of the students are girls.

The rest are boys.

How many boys are there?

boys

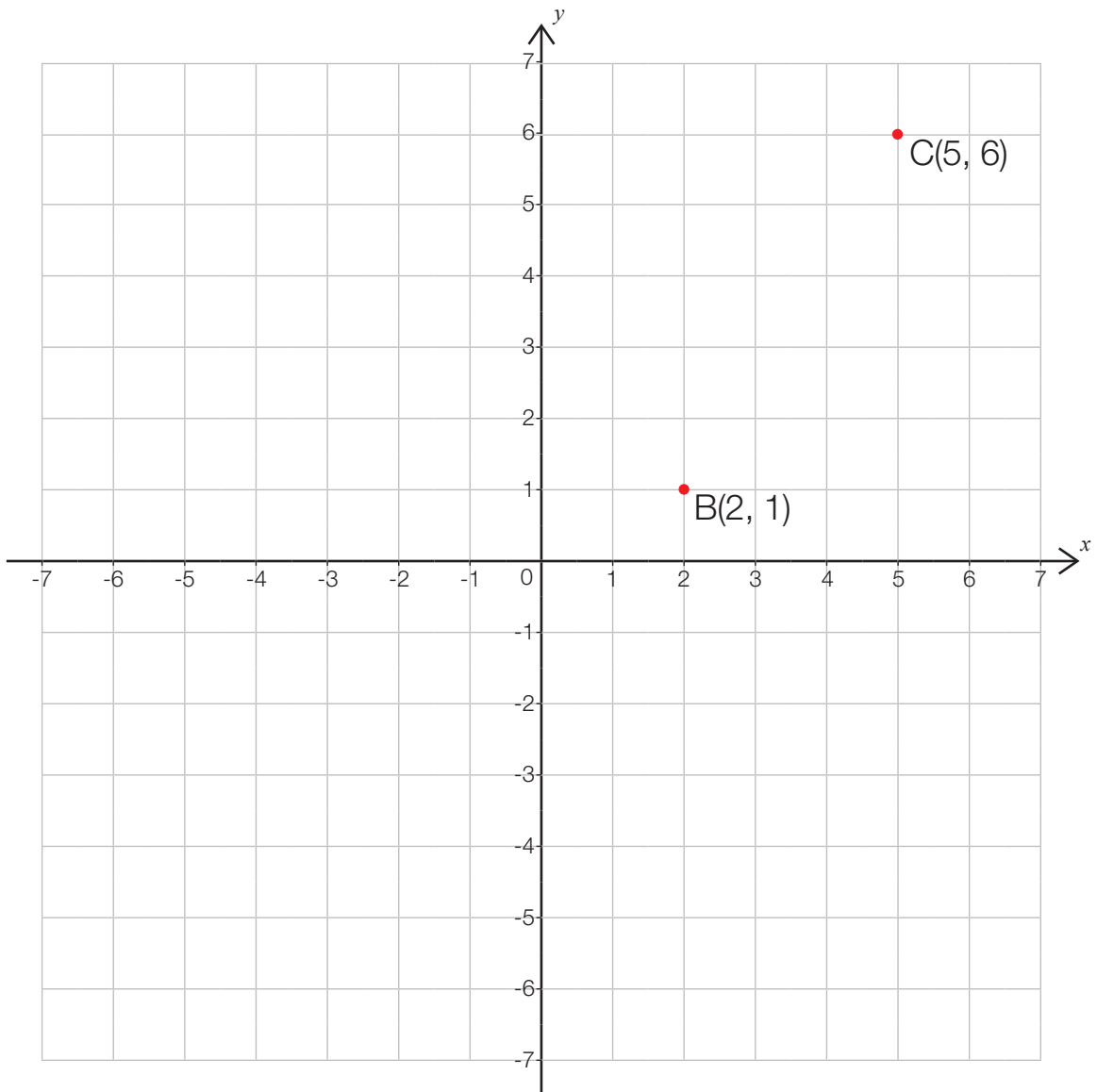
3 marks

14

The points A, B and C lie on a straight line.

The length of AB is equal to the length of BC.

What are the coordinates of point A?



1 mark

15

Jenny is using a map to plan a walk.

The scale of the map is 1 : 20 000

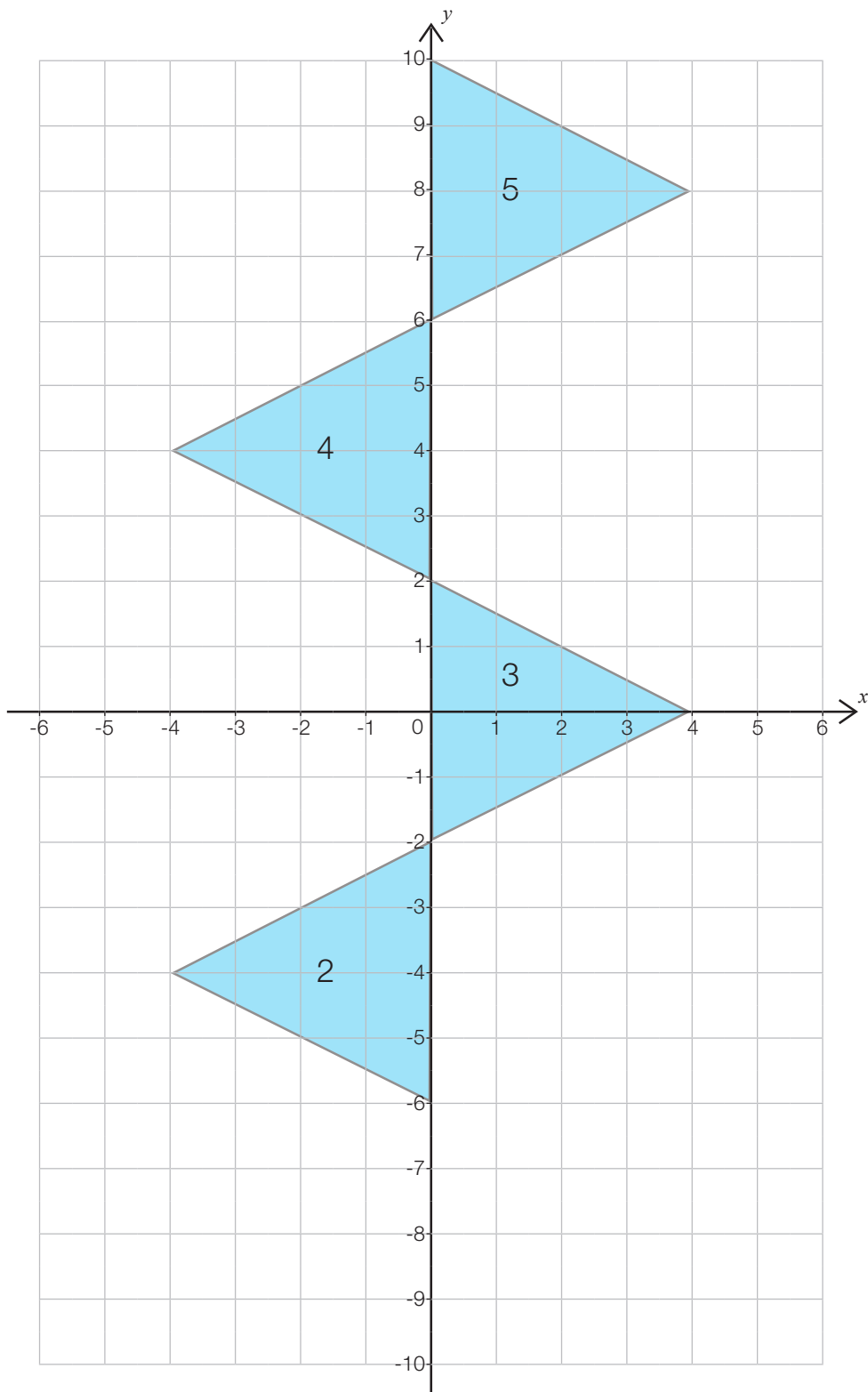
She measures the route as 23.5 cm.

How long is the walk in km?

_____ km

3 marks

A sequence of isosceles triangles has been drawn on the grid.



Draw shape 1 onto the grid.

1 mark

What are the coordinates of the vertices of shape 6?

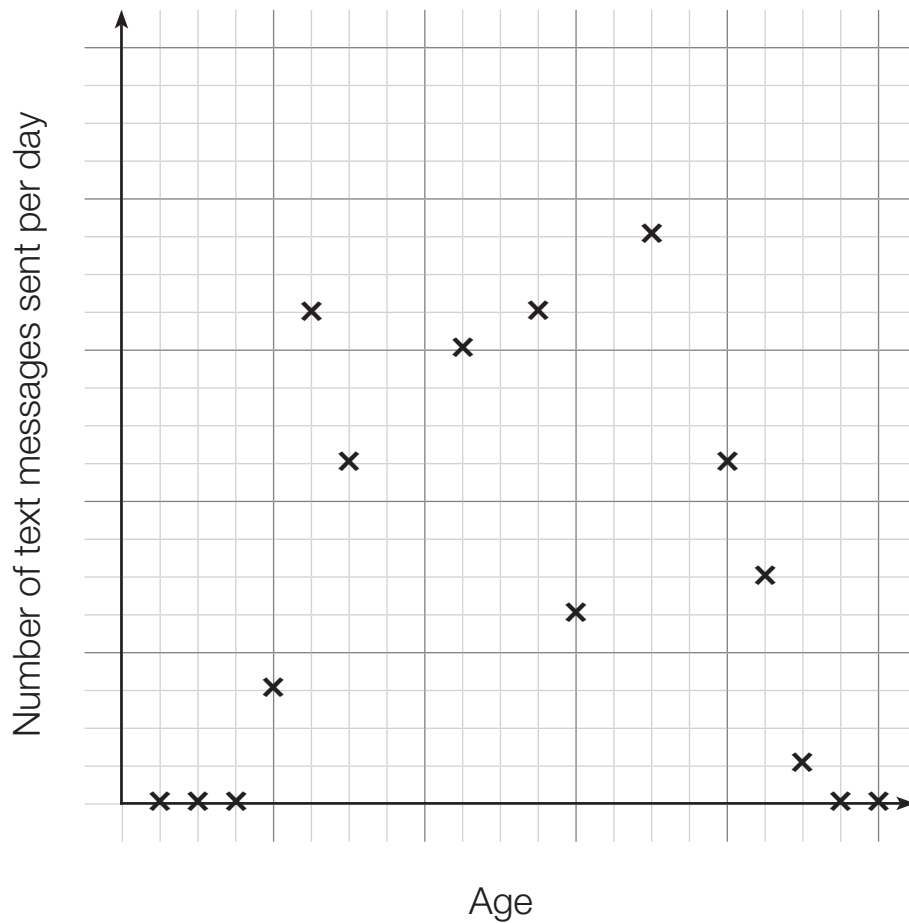
2 marks

Megan is researching whether,

The younger you are; the more text messages you send.

She collects data from 15 of her family.

Here is a scatter graph of her results.



Do her results support her idea?

Explain why.

There are two clusters of points on the horizontal axis.

Give a possible explanation for **one** of these clusters.

1 mark

END OF TEST

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