Year 7

Mathematics

Core: Calculator allowed

Time allowed: 45 minutes

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

White Rose Maths
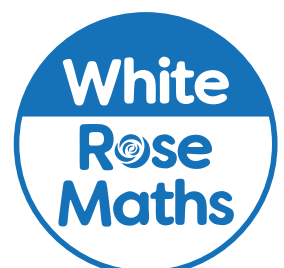
1 Write the value of the 6 in the number 765 200 in words.

_____

Write the value of the 3 in the number 0.035 in words.

_____

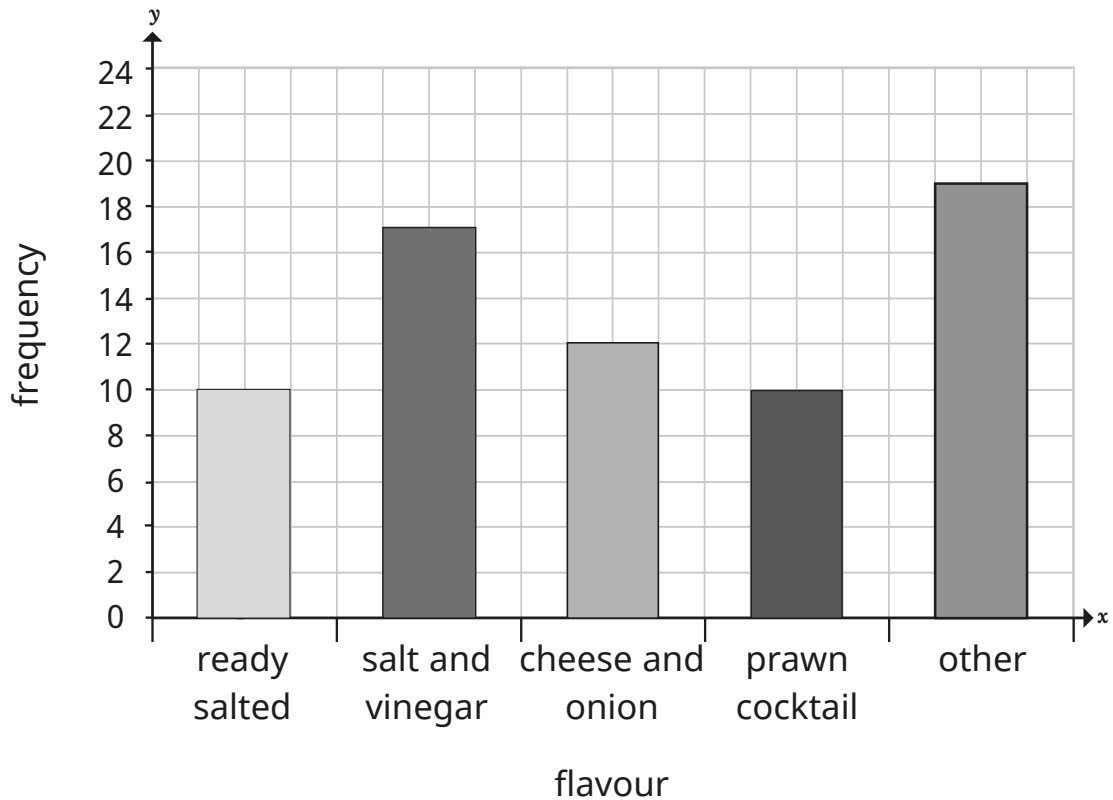Write a number with 8 in the thousandths column.

2 Use your calculator to work out $(1.8 - 4.5)^2 \times -2.43$

Write all the figures on your calculator display.

_____

3 The bar chart shows the favourite crisp flavours of a group of students.

How many more students chose salt and vinegar than chose ready salted?

1 mark

How many students were asked in total?
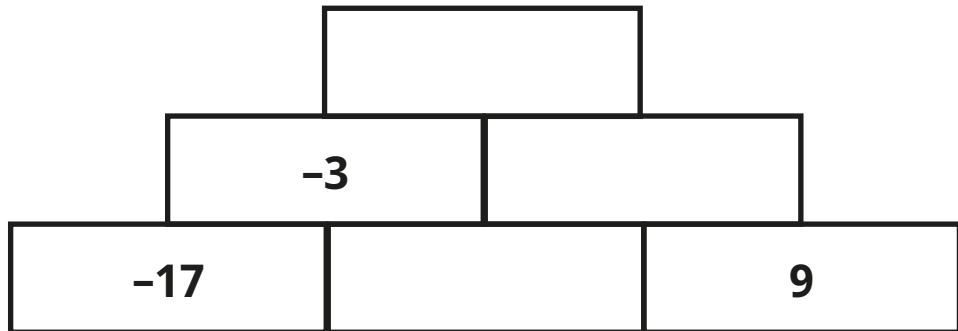
1 mark

4 Write 41% as a fraction.

1 mark

Write $\frac{1}{3}$ as a percentage.

%

1 mark

5 In the number pyramid, the number in each box is the sum of the numbers in the two boxes below it.

	–3	
–17		**9**

2 marks

6   10 000,   5000,   2500,   1250,   ...

Is the sequence linear or non-linear?

Circle your answer.

linear   non-linear
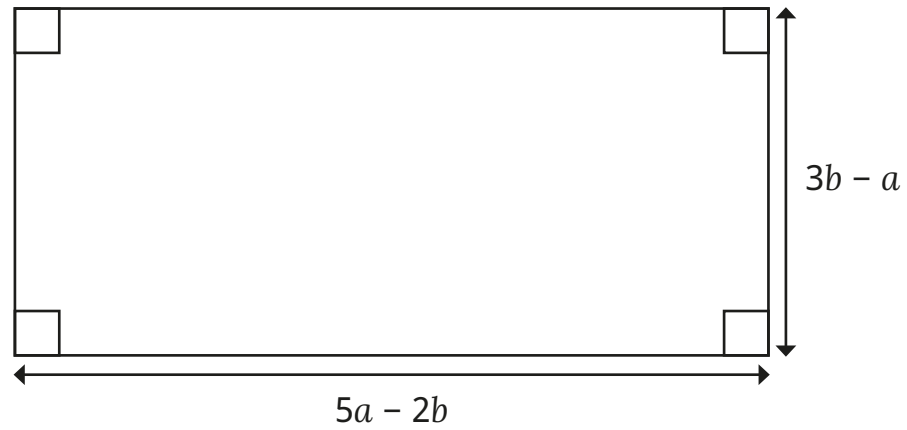
Explain your reasoning.

1 mark

Write the term-to-term rule of the sequence.

1 mark

7

$3b - a$

$5a - 2b$

Write a simplified expression for the perimeter of the rectangle.

_____

2 marks

Work out the perimeter of the rectangle when a = 6 and b = 4.5

_____

2 marks

8 A bag contains some oats.

The mass of the oats in the bag is 2 kg.

Dexter pours $\frac{2}{5}$ of the oats into a jar.

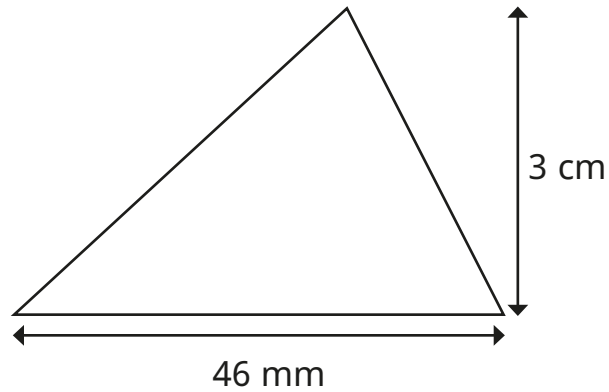What is the mass of the oats in the jar?

Give your answer in grams.

g

2 marks

9 $p\%$ of a hundred square is shaded.

Write an expression for the percentage of the hundred square that is not shaded.

_____ %

1 mark

3 cm

46 mm

Annie has worked out the area of the triangle.

Here is her working.

$$\text{Area} = \frac{1}{2} \times 46 \times 3 = 69 \text{ cm}^2$$

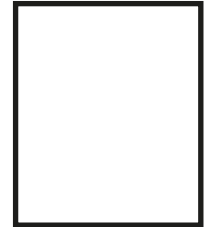Explain why Annie is incorrect.

Work out the area of the triangle.

Give units with your answer.

11 The probability that Whitney wins a game is $\frac{11}{15}$

What is the probability that Whitney does not win the game?

1 mark

12 Express 280 as the product of its prime factors.

2 marks

13

$$5x + 10y = 100$$

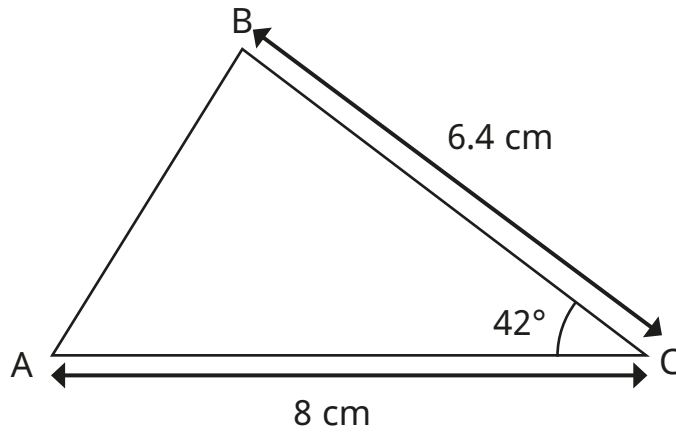Use the equation to work out the value of each expression.

$10x + 20y$

$x + 2y$

$80y + 40x$

diagram not drawn accurately
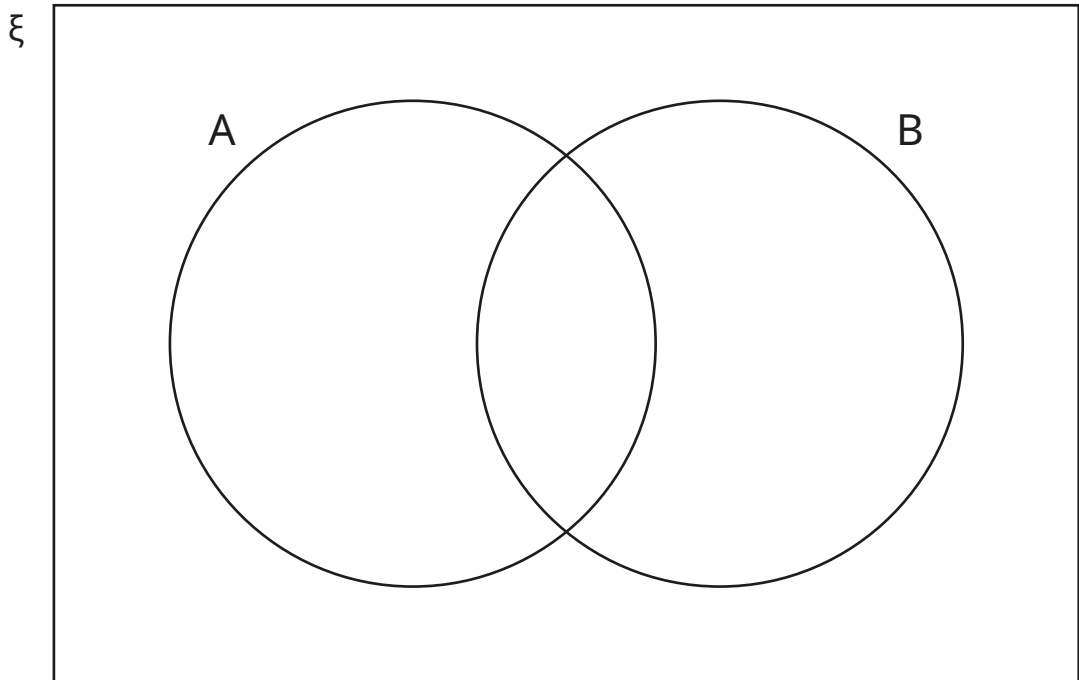
B

6.4 cm

42°

A

C

8 cm

Make an accurate drawing of triangle ABC.

3 marks

15   ξ = { 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 }

A = { even numbers }

B = { square numbers }

Show this information in the Venn diagram.

ξ

A   B

2 marks

16

M

$5b$

$a + 17.2$ 38°

L   N
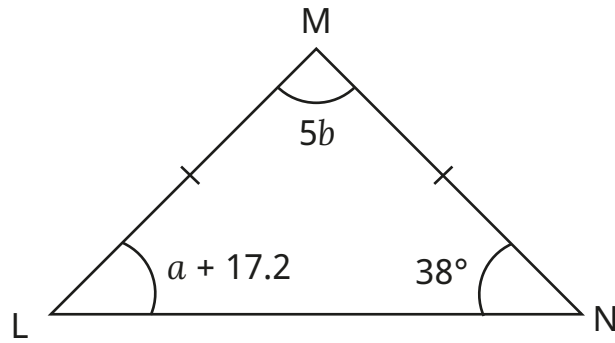
Explain why $a + 17.2 = 38$

1 mark

Work out the value of a.

$a =$

1 mark

Work out the value of b.

$b =$

2 marks

17 Three buckets are partly filled with water.

Each bucket has a capacity of 10 litres.

- Bucket A contains $3\frac{1}{2}$ litres of water.

- Bucket B contains $\frac{3}{10}$ of a litre more than bucket A.

- If you pour $7\frac{1}{4}$ litres of water into Bucket C, it will be full.

Is it possible for all the water to fit into one bucket?

Circle your answer.

Yes   No

Show working to support your answer.

3 marks

END OF TEST

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