



Answer all questions in the spaces provided.

1 Circle the value of  $57 + 86$  [1 mark]

97

117

125

143

2 A circle has diameter 20 cm  
Circle the radius. [1 mark]

5 cm

10 cm

20 cm

100 cm

3 Circle the percentage that is between  $\frac{1}{2}$  and  $\frac{3}{4}$  [1 mark]

40%

60%

80%

90%

4 Circle the length of time between 2.00 pm and 4.05 pm

[1 mark]

55 min

65 min

105 min

125 min

5 Simplify fully  $9a + 8b + 3a - 4b$

[2 marks]

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Answer \_\_\_\_\_

Turn over for the next question

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6

Turn over ►

- 6 The two-way table shows the numbers of cars and vans that are crushed or saved for spare parts.

	Crushed	Spare parts
Cars	15	24
Vans	7	12

- 6 (a) State the number of [2 marks]

i) cars that are crushed

Answer \_\_\_\_\_

ii) vans that are saved for spare parts.

Answer \_\_\_\_\_

- 6 (b) Calculate the total number of [2 marks]

i) Cars

Answer \_\_\_\_\_

ii) Crushed vehicles.

Answer \_\_\_\_\_

7 The only animals on a farm are 50 chickens and 120 ducks.

$\frac{2}{5}$  of the 50 chickens are sold

and

$\frac{3}{4}$  of the 120 ducks are sold.

Work out the total number of animals that are sold.

[3 marks]

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Answer \_\_\_\_\_

8 In a survey about favorite movie genres,  
72% of people said they prefer Comedy,  
15% said they prefer Drama,  
and the rest said they prefer Science Fiction.

What percentage of people said they prefer Science Fiction?

[2 marks]

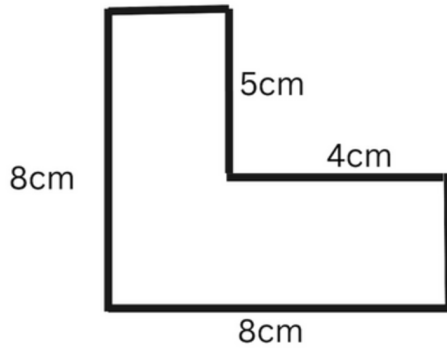
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Answer \_\_\_\_\_ %

- 9 (a) Calculate the perimeter and area of shape. State the units of your answers.



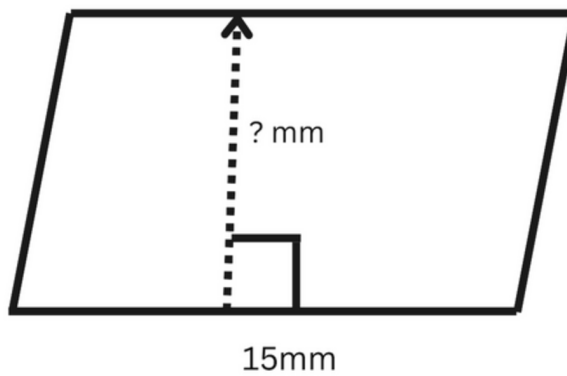
Work out the area of the rectangle.

[2 marks]

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Answer \_\_\_\_\_ cm<sup>2</sup>

- 9 (b) The area of the shape is  $120\text{mm}^2$ . Calculate the unknown lengths.



[2 marks]

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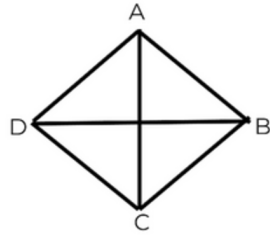
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Answer \_\_\_\_\_ mm

- 9 (c) Find the area of the rhombus.



[1 mark]

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Answer \_\_\_\_\_ mm

- 10 Here is a calculation.

$$458 \times 50 = 22\,900$$

Use the calculation to help answer the following questions.

- 10 (a) Write down the answer to  $22900 \div 458$

[1 mark]

Answer \_\_\_\_\_

- 10 (b) Circle the answer to  $217 \times 20$

[1 mark]

4340

3210

6420

25 680

7

Turn over ►

11 Lara buys a pack of pens. The total cost of the pack is £45.  
Each pen in the pack costs £3.

11 (a) Work out how many pens Lara buys

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[2 marks]

Answer \_\_\_\_\_

11 (b) Lara uses all the pens she bought to prepare gift packs. Each gift pack  
contains 5 pens. How many complete gift packs can she prepare?

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[3 marks]

Answer \_\_\_\_\_



- 11 (c) The shop also sells magazines for £4.50 each. The shop has this offer.



Work out the cost of 4 magazines using the offer.

[3 marks]

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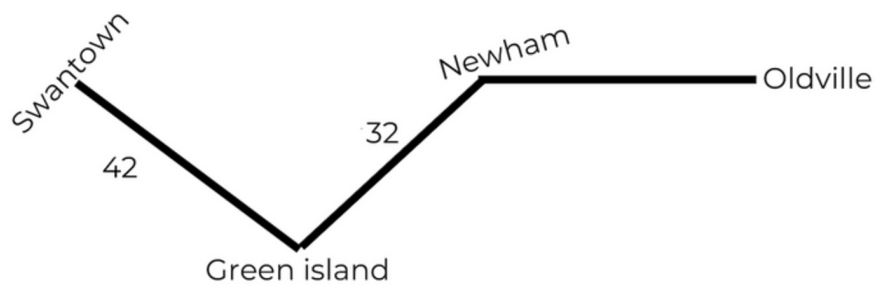
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Answer £ \_\_\_\_\_

- 12 Here is a route map between four towns. The distances, in kilometres, between some of the towns are shown on the map.



- 12 (a) The distance from Swantown to Oldville is 95 Kilometres.

Workout the distance from Newham to Oldville

[3 marks]

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Answer \_\_\_\_\_ kms

- 12 (b) Complete the distance chart below to show the distances between the towns

Swantown			
42	Green island		
	32	Newham	
			Oldville

[3 marks]

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- 13 Ethan tries to simplify  $ab \times 3$ . Here is his method:

$a \times 3 = 3a$ $b \times 3 = 3b$ $3a \times 3b = 9ab$
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What is wrong with his method?

[1 mark]

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Turn over ►

14 Work out  $0.75 \times 0.15$   
Give your answer as a decimal.

[4 marks]

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Answer \_\_\_\_\_

15 (a) Solve  $17x - 3 = 7x + 7$

[3 marks]

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$x =$  \_\_\_\_\_

15 (b) Solve  $\frac{3x}{5} = 15$

[2 marks]

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$x =$  \_\_\_\_\_

9

Turn over ►

16 Bag A and bag B each contain only red balls and green balls.

Bag A	Contains 28 red balls There are twice as many red balls as green balls
Bag B	Contains 20 green balls There are 3 red balls for every 5 green balls

16 (a) Work out the total number of balls .

[3 marks]

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Answer \_\_\_\_\_

16 (b)

A different bag, C, is empty.

The 28 red balls from A are put into C. The 20  
green balls from B are also put into C.

One ball is now picked at random from each bag.

Complete each statement.

[3 marks]

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The probability of red from A is \_\_\_\_\_

The probability of red from B is \_\_\_\_\_

The probability of red from C is \_\_\_\_\_

17

What is  $\frac{1}{15}$  as a decimal?

Circle your answer.

[1 mark]

0.05

0.067

0.06

0.005

7
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Turn over ►

18 Divide 369kg in the ratio 7 [3 marks]

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Answer \_\_\_\_\_ and \_\_\_\_\_

19 Find the first three terms and the 10th term of the sequence with  
general term  $3n+2$  [2 marks]

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The table shows information about the number of hours 40 children watched television one evening.

Number of hours (h)	Frequency
$0 \leq t < 1$	3
$1 \leq t < 2$	8
$2 \leq t < 3$	7
$3 \leq t < 4$	10
$4 \leq t < 5$	12

a) Workout an estimate for the mean number of hours

[3 marks]

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Answer \_\_\_\_\_

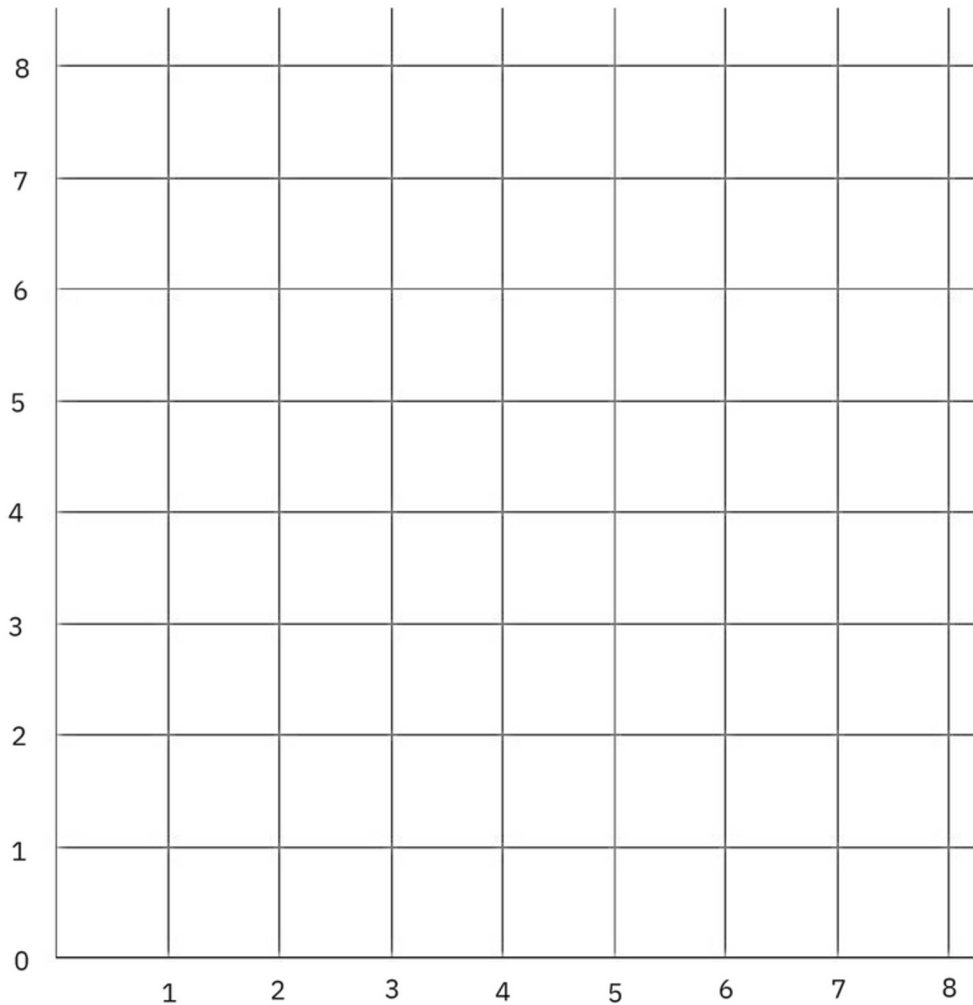
Turn over for the next question

Turn over ►

21 Given the vectors:  $a = \begin{bmatrix} 2 \\ 3 \end{bmatrix}$  and  $b = \begin{bmatrix} 1 \\ 5 \end{bmatrix}$

Draw and label the following vectors from the origin on the axes below:

- 1)  $2a$
- 2)  $a + b$
- 3)  $4a - 2b$



[4 marks]



24 In a company there are 110 workers.

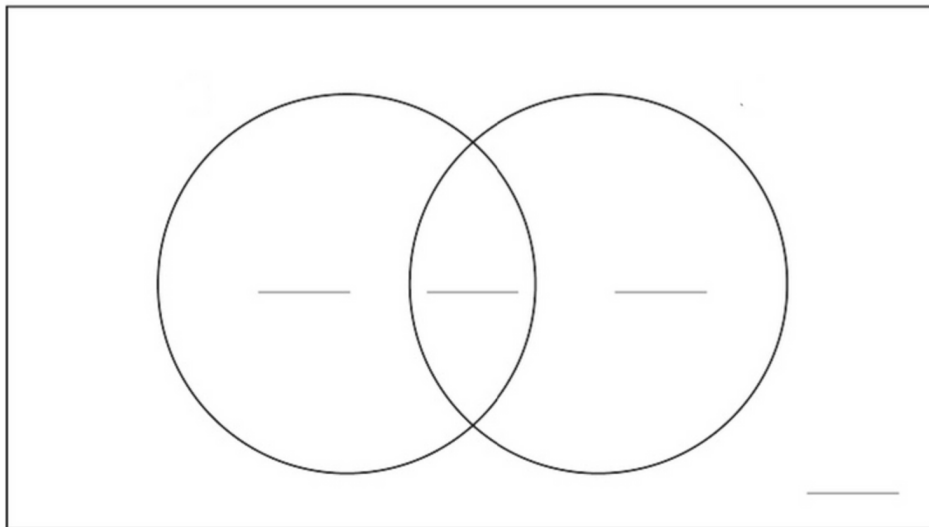
90 workers like tea.

41 workers like coffee.

25 workers like both tea and coffee.

Work out how many workers like neither tea or coffee

[3 marks]



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25 Write 625:25 in the form  $n : 1$  where  $n$  is an integer.

[3 marks]

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Answer \_\_\_\_\_ : 1

26  $a$  is 10% more than  $b$ .

Circle the ratio  $a : b$

[1 mark]

10 : 11

10 : 1

11 : 10

1 : 10

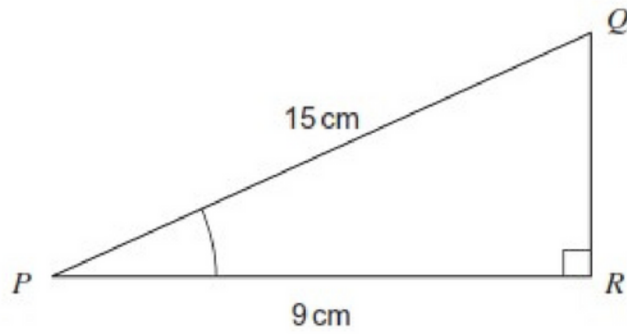
Turn over for the next question

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Turn over ►

27

Work out the size of angle P .

Not drawn  
accurately

[3 marks]

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Answer \_\_\_\_\_ degrees

END OF QUESTIONS