

Answer all questions in the spaces provided.

Do not write
outside the
box

1 (a) Order the numbers from smallest to largest

3, -2, 1, -5, -6 -8 9

[1 mark]

Answer _____

1 (b) Calculate $2.89 + 0.5$

[1 mark]

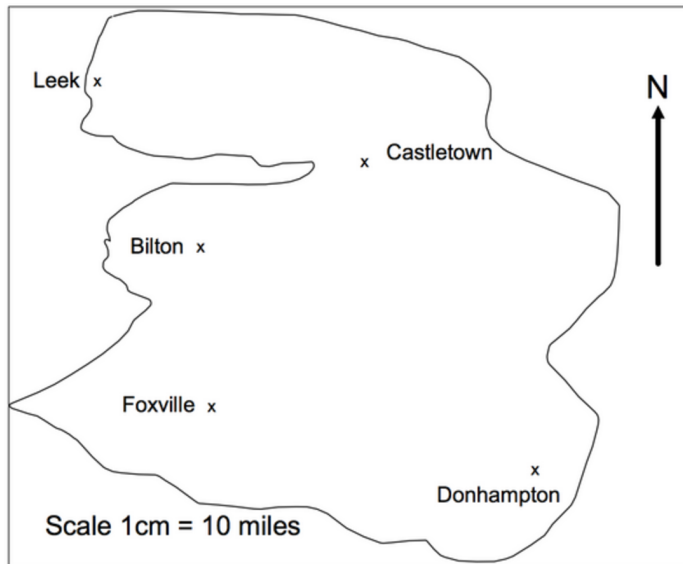
Answer _____

1 (c) How many minutes are in 4.45 hours?

[1 mark]

Answer _____

2 This is a map of an island.



[2 marks]

A helicopter flies in a straight line from Leek to Donhampton.

(a) How far does the helicopter fly?

.....miles

(b) Write down the bearing of Donhampton from Leek.

[2 marks]

.....°


Turn over for the next question




3 Three groups of people, A, B and C, have taken GCSE's test.

Here is information about the number of tests taken by the people in A.

[3 marks]

Group A

Key:  represents 5 people


One test	
Two tests	
Three tests	

Here is information about the number of tests taken by the people in B.

- One test Half the number in A who have taken one test.
- Two tests 5 fewer than the number in A who have taken two tests.
- Three tests 10 more than the number in A who have taken three tests.

Complete this pictogram for the people in B.

Group B

Key:  represents 5 people

One test	
Two tests	
Three tests	

4 (a) Solve $5(5x - 4) = 2(5x - 5)$

[3 marks]

4 (b) On a bus, there are between 50 and 60 people.

The ratio of adults to children is 5 : 4

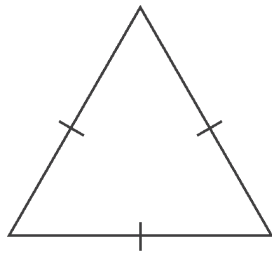
Work out the total number of people on the bus.

[2 marks]

Answer _____

Turn over for the next question

5 (a) How many lines of symmetry does this shape have?



[1 mark]

[1 mark]

5 (b) Find the common difference and the n term for the sequence : 2, 5, 8, 11, 14, ...

5 (c) Factorise $x^2 - 2x - 24$

[2 marks]

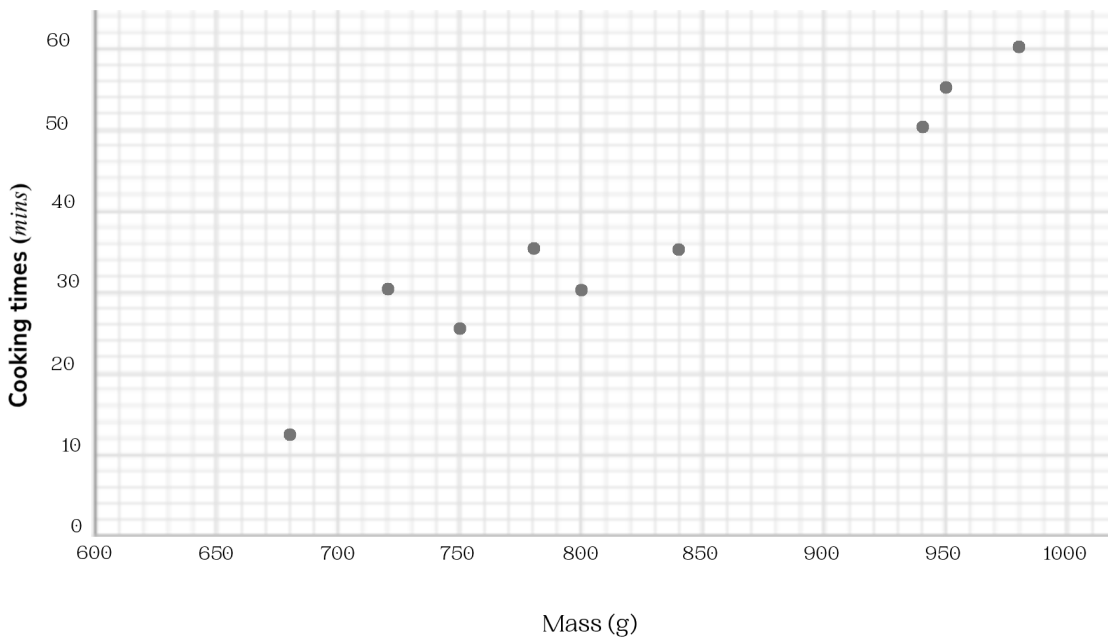
Answer _____

5 (d) Expand and simplify $(2x - 2)(x + 3)$

[2 marks]

Answer _____

6 This scatter diagram shows information about the cooking times of a variety of biscuits.



Here is some information about another four biscuits.

Mass (g)	Cooking time (mins)	750	850	700	900
		35	50	20	55

[2 marks]

6 (a) Plot this information on the scatter diagram.

6 (b) What type of correlation does this scatter diagram show?

[1 mark]

Answer _____

[2 marks]

6 (c) Use the scatter diagram to estimate the cooking time of a biscuit which weighs 950g.

Answer _____ minutes

7 (a) Simplify $8a - 3a + a$.

[1 mark]

7 (b) Calculate $\sqrt{81}$.

[1 mark]

Answer _____

7 (c) Circle the two prime numbers

[1 mark]

29, 59, 39, 69, 99 _____

8 (a) A tank contains 40 litres of water.

[1 mark]

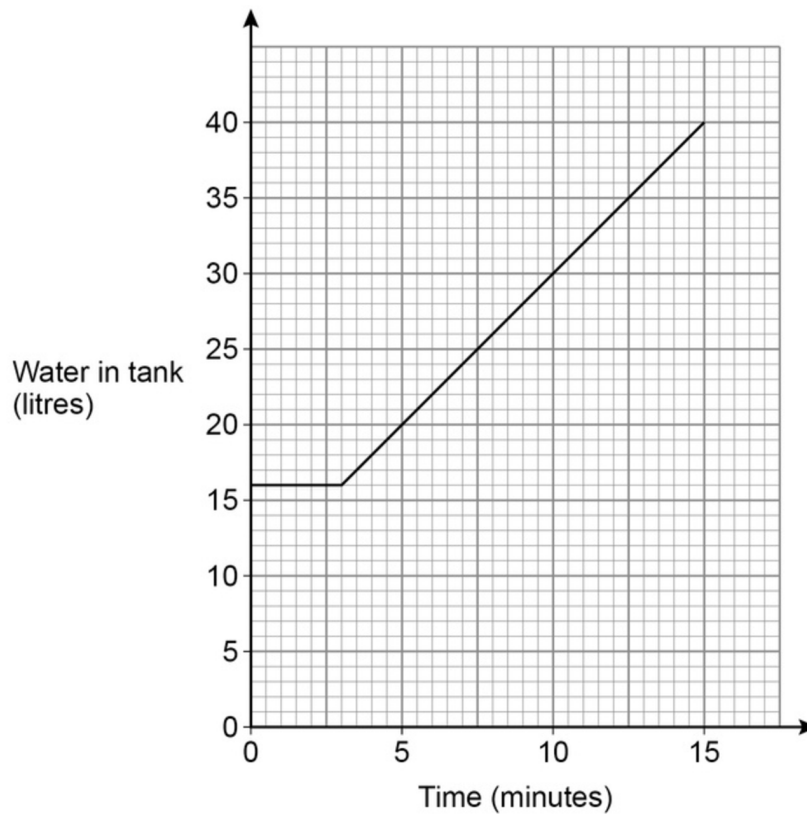
Water leaks out of the tank at a rate of 1.2 litres per minute.

The leak is stopped after 20 minutes.

Show that, when the leak is stopped, the tank contains 16 litres of water.

8 (b) The tank is refilled with water from a tap.

The graph shows the amount of water in the tank after the leak is stopped.



[3 marks]

Complete this report by writing a number in each answer space.

Report

_____ minutes after the leak is stopped, the tap starts to refill the tank.

The rate at which the tank refills is _____ litres per minute.

9 (a) Simplify fully $C \times C$ [1 mark]

Answer _____

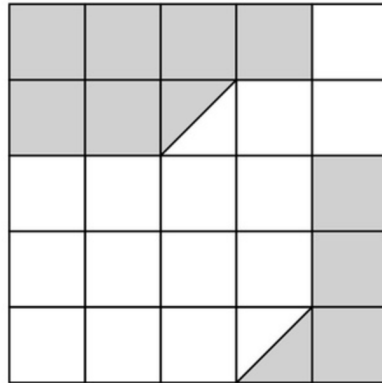
9 (b) Simplify fully $4m \div 2m$ [1 mark]

Answer _____

9 (c) Simplify fully $\frac{w}{5} = 60$ [1 mark]

Answer _____

10 (a) What percentage of this shape is shaded?



[2 marks]

Answer _____ %

10 (b) $x = 325 - 125$
 $y = 15 * 15$

[2 marks]

Work out the value of $x * y$

Turn over for the next question

11 (a) Work out the lowest common multiple (LCM) of 120 and 144

[2 marks]

Answer _____

11 (b) Here is an identity. $a(3x - 10) \equiv 24x + 8b$
Work out the values of a and b.

[3 marks]

a= _____ b = _____

14 (a) A football team plays two matches. [2 marks]
For the first match, 20 000 tickets are sold.
Each ticket costs £22.50
Work out the total amount of money from ticket sales for this match.

Answer _____

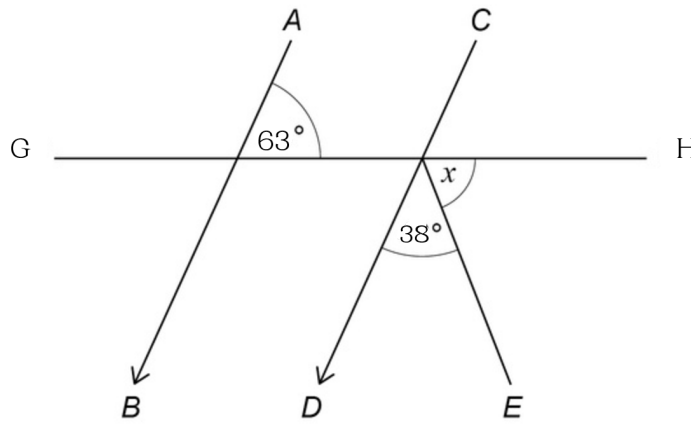
14 (b) Circle the solid that has six vertices. [1 mark]
cone cuboid triangular prism square-based pyramid

Turn over for the next question

16

AB is parallel to CD .

GH is a straight line.



Not drawn accurately

Work out the size of

angle x

[3 marks]

Answer _____ degrees

Turn over for the next question

[1 mark]

17 The equation of a line is $y = 3x - 6$ Circle the coordinates of the y-intercept.

(0, -6)

(-6, 0)

(0, 3)

(3, 0)

18 Convert 11.2 kilometres into miles.

[2 marks]

Use 8 km = 5 miles

Answer _____ miles

19 The square root of x is 5

[1 mark]

Circle the value of x^2

256

625

125

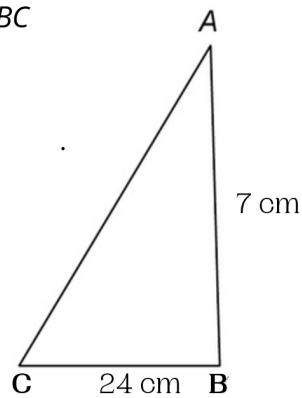
654

21 (a) Rearrange $4k = 4h - 4$ to make the subject. h

[2 marks]

Answer _____

21 (b) Here is triangle ABC



Not drawn accurately

[3 marks]

Assume that angle $ABC = 90^\circ$. Work out the length AC .

Answer _____ cm

23 Here are five cards.

2 4 6 8 13

One of the cards is removed.

The mean of the numbers on the remaining four cards is 6

Which card was removed?

[3 marks]

You must show your working.

2

Answer _____

END OF QUESTIONS