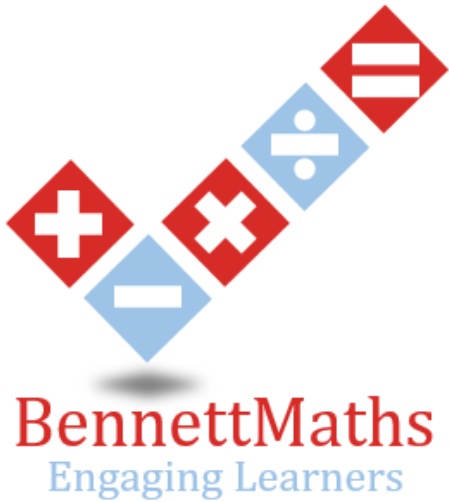


***BennettMaths will be live on TikTok the night before paper 2,  
going through all the predicted papers.***

***Tuesday 2<sup>nd</sup> June at 8pm***

Candidate surname

Other names



**AQA**

**Best Guess Paper –  
2F  
Calculator**

Within this booklet you will find my best guess at which topics might be on the second AQA foundation gcse maths paper.

There may be other topics that appear on paper 2, so please ensure that you continue to revise all topics.

The paper consists of 28 questions totalling 80 marks.

**1(a)** Solve  $x + 3 = 9$

[1 mark]

Answer      $x = 6$     

**(b)** Solve  $3x = 21$

[1 mark]

Answer      $x = 7$     

**2** Use the list of numbers to help answer each part of this question

5, 15, 20, 25, 27

**(a)** From the list, select a square number

[1 mark]

Answer     25    

**(b)** From the list, select a multiple of 10

[1 mark]

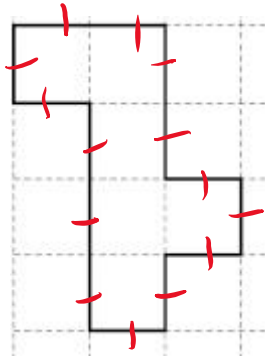
Answer     20    

**(c)** From the list, select a prime number

[1 mark]

Answer     5

3 The following shape is drawn on a centimetre grid.

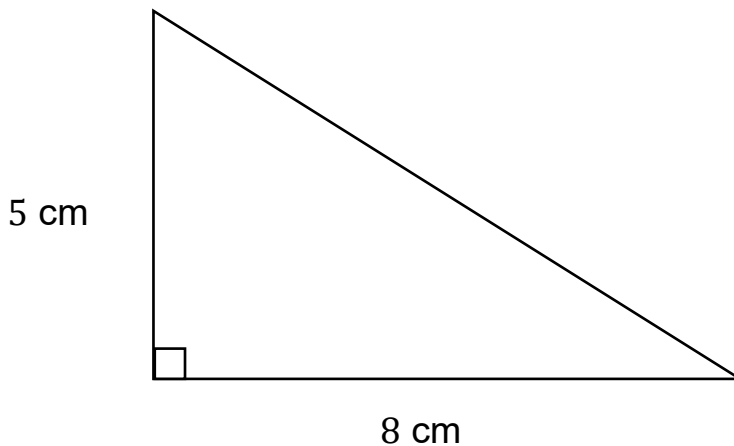


Work out the perimeter of the shape, stating your units

[2 marks]

Answer 14 cm

4




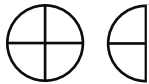

[3 marks]

Work out the area of the triangle, stating your units

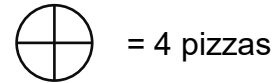
$$\frac{5 \times 8}{2} = 20$$

Answer 20 cm<sup>2</sup>

5 The pictogram shows the number of pizza eaten by three cousins during a year.

Leo	 = 12
Margot	 = 6
Oscar	

Key:



The three cousins ate a total of 26 pizzas over the year.

(a) Complete the pictogram to show this information

[2 marks]

$$26 - 12 - 6 = 8$$


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The average cost of each pizza was £6.23

(b) Work out the total cost of the 26 pizzas.

[2 marks]

$$26 \times 6.23$$


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Answer £161.98

**6** Pixie and Woody share some biscuits in the ratio 7:13.

(a) Write down the fraction of the biscuits that Pixie has.

**[1 mark]**

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Answer  $\frac{7}{20}$

(b) Write down the percentage of biscuits that Woody has.

**[2 marks]**

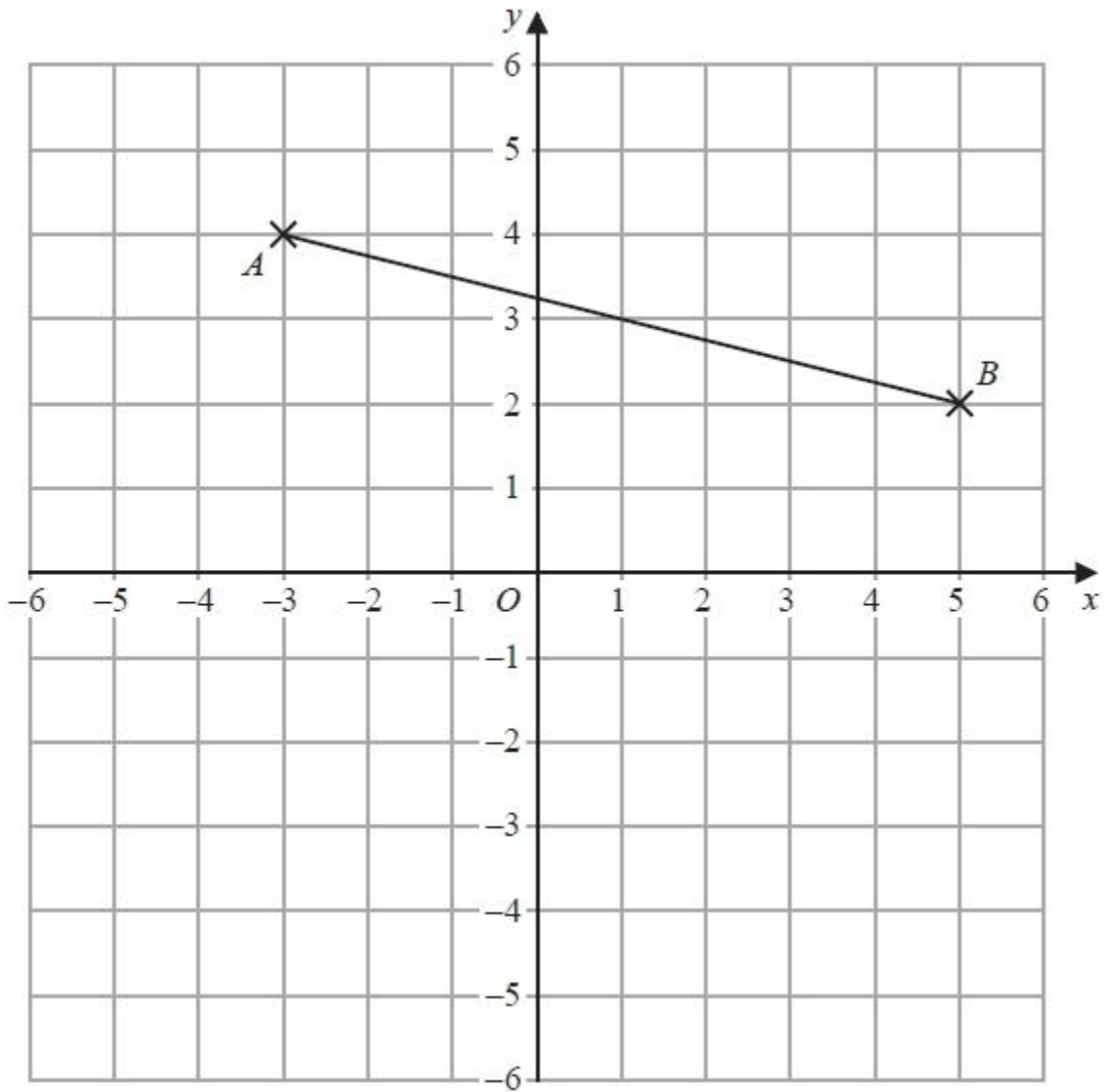
$$\frac{13}{20} \times 100$$

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Answer  $65\%$

7



(a) Write down the coordinates of point A

[1 mark]

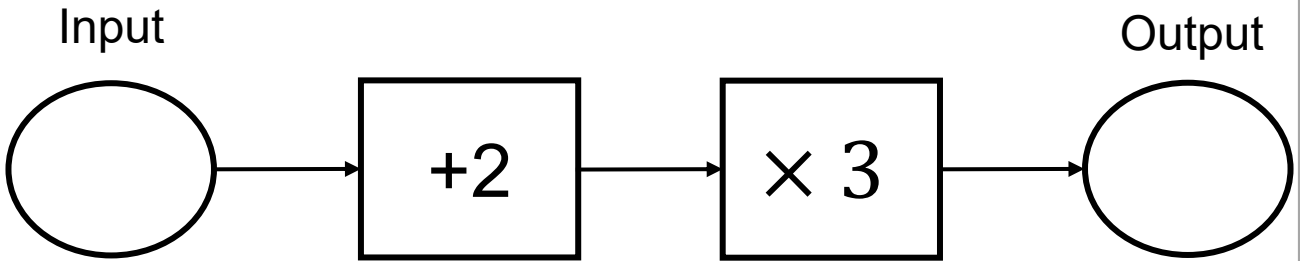
(-3, 4)

(b) Write down the coordinates of the midpoint of line AB

[2 marks]

(1, 4)

8 Here is a number machine



(a) Work out the **output** when the input is 23

[1 mark]

$$23 + 2 \times 3 = 75$$

Answer 75

(b) Work out the **input** when the output is 90

[1 mark]

$$90 \div 3 - 2 = 28$$

Answer 28

(c) Give one example of when the input value is greater than the output

[1 mark]

$$-4 + 2 \times 3 = -2$$

Answer -4

9 Amy (A), Lilly (L) and Sharon (S) take part in a race.

They will either finish in 1<sup>st</sup>, 2<sup>nd</sup> or 3<sup>rd</sup> place.

List all the possible outcomes for their finishing positions. The first one has been completed for you.

**[2 marks]**

1 <sup>st</sup>	2 <sup>nd</sup>	3 <sup>rd</sup>
A	L	S
A	S	L
L	A	S
L	S	A
S	A	L
S	L	A

**10** Here is a list of numbers

$-2, 3, 1, 0, 3, 9, 8, 6$

**(a)** Write down the mode

[1 mark]

Answer 3

**(b)** Work out the range

[1 mark]

9 - -2

Answer 11

**(c)** Work out the median

[2 marks]

-2, 0, 1, 3 | 3, 6, 8, 9

Answer 3

**(d)** Work out the mean

[2 marks]

$-2 + 0 + 1 + 3 + 3 + 6 + 8 + 9$

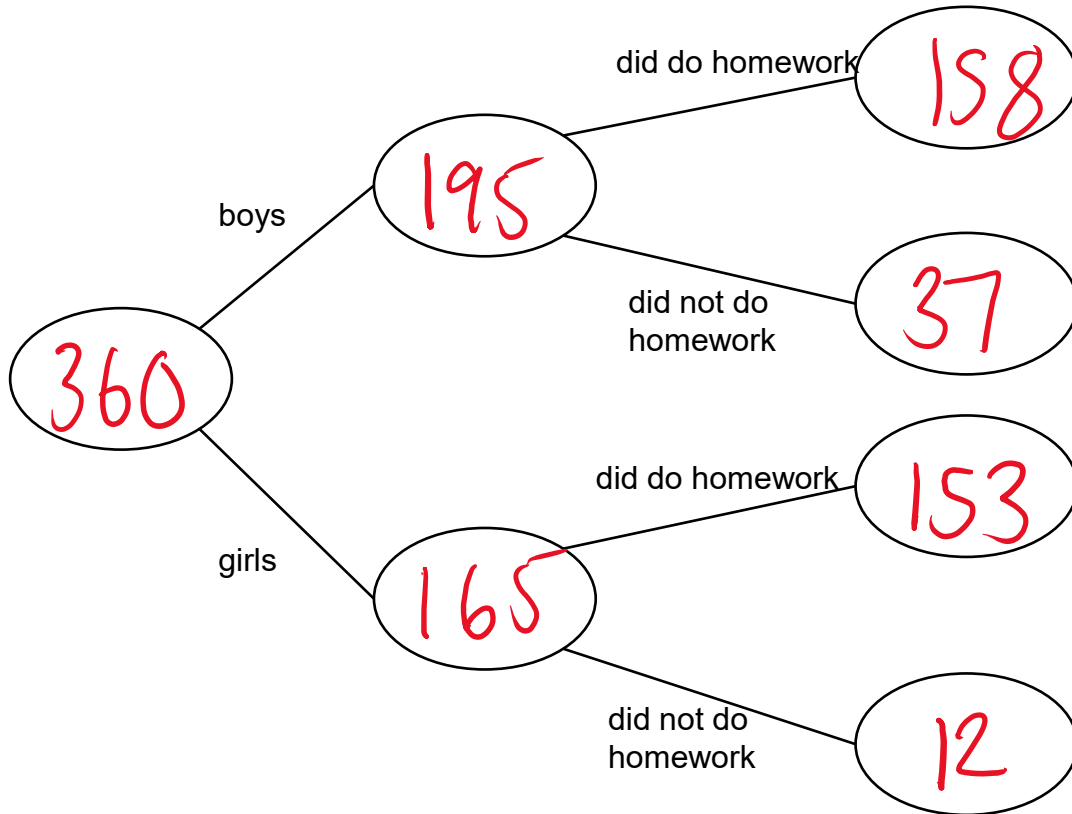
$28 \div 8 =$

Answer 3.5

- 11** 360 students have some homework.  
195 of the students were boys.  
12 of the 49 students that did not do their homework were girls.

(a) Use this information to complete the frequency tree.

**[3 marks]**



- (b) One of the boys is chosen at random.  
Write down the probability that they did do their homework

**[2 marks]**

$$\frac{158}{195}$$

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Answer \_\_\_\_\_

- 12 Using a calculator, work out the value of

$$\sqrt[3]{\frac{4.3 \times \sin(45)}{9.3^2}}$$

- (a) Write down all the numbers on your calculator display

[2 marks]

Answer 0.3275889069

- (b) Round your answer to part (a) to 3 significant figures

[1 mark]

Answer 0.328

- 13 The distance between Preston and Lancaster on a map is 8cm.  
The map uses the scale 1:325,000

[2 marks]

Work out the actual distance between Preston and Lancaster in cm.

8 × 325,000

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Answer 2,600,000

**14** Convert  $150\text{cm}^2$  into  $\text{mm}^2$

**[2 marks]**

$$\begin{array}{c} \curvearrowright \\ \times 10^2 \end{array}$$

Answer 15000

**15**  $Z = 2p^2 + 3p - 5$

**[3 marks]**

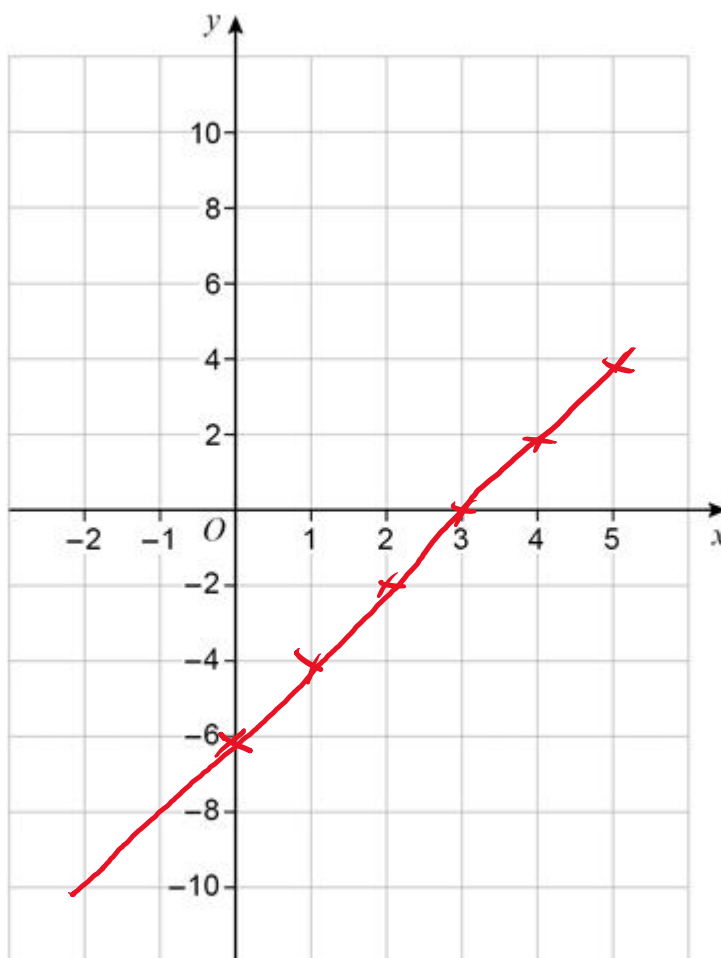
Work out the value of  $Z$  when  $p = -4$

$$2(-4)^2 + 3(-4) - 5$$

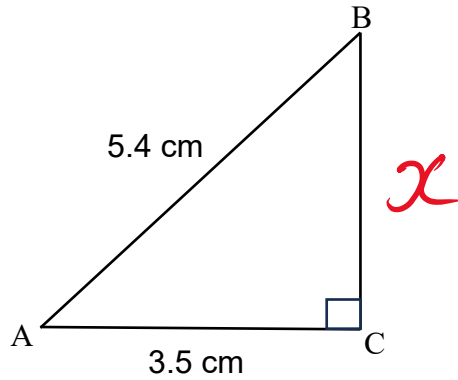
Answer 15

**16** On the grid, draw the graph of  $y = 2x - 6$  for values of  $x$  from  $-2$  to  $5$

**[3 marks]**



- 17 The right-angled triangle ABC has been drawn below.  
AB = 5.4 cm  
AC = 3.5 cm



Work out the length of BC.  
Give your answer correct to 2 decimal places.

[3 marks]

$$x^2 + 3.5^2 = 5.4^2$$

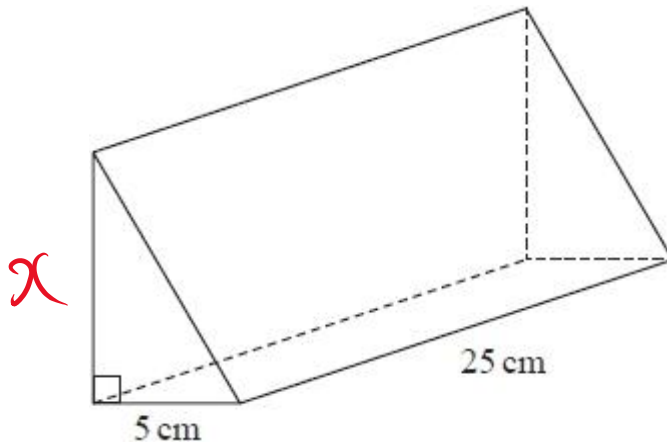
$$x^2 + 12.25 = 29.16$$

$$x^2 = 16.91$$

$$x = 4.11$$

Answer 4.11

18 The diagram shows a prism.



The cross section of the prism is a right-angled triangle.

The base of the triangle has length 5 cm

The prism has length 25 cm

The prism has volume  $750 \text{ cm}^3$

Work out the height of the prism.

[3 marks]

$$\frac{x \times 5}{2} \times 25 = 750$$

$$\frac{5x}{2} = 30$$

$$5x = 60$$

$$x = 12$$

Answer 12

**19** Use a word from the list below to complete each sentence.

Arc

Chord

Circumference

Diameter

Radius

Sector

Segment

Tangent

The radius is half the length of the diameter. [1 mark]

The segment is the region created by drawing a chord through a circle. [1 mark]

The arc is a section of the circumference. [1 mark]

**20**

Make  $x$  the subject of

$$\frac{3x + y}{b} = a$$

[2 marks]

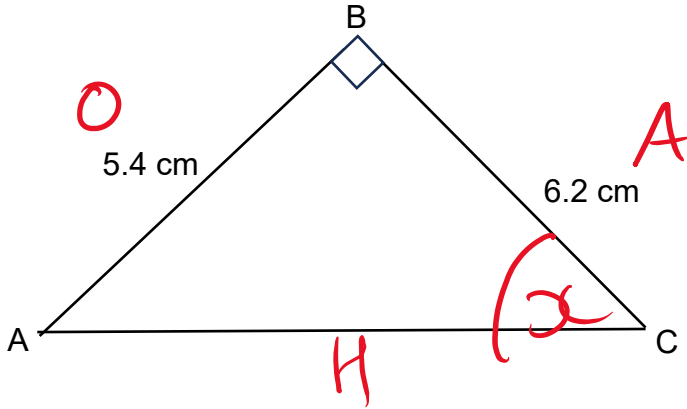
$$3x + y = ab$$

$$3x = ab - y$$

$$x = \frac{ab - y}{3}$$

Answer \_\_\_\_\_

- 21** The right-angled triangle ABC has been drawn below.  
 AB = 5.4 cm  
 BC = 6.2 cm



- (a) Work out the size of angle BCA.

Give your answer correct to 3 significant figures.

[3 marks]

$$\tan(x) = \frac{5.4}{6.2} \quad x = \tan^{-1}\left(\frac{5.4}{6.2}\right)$$

Answer 41.1

- 22** Expand and simplify  $3(2x + 1) - 4(x - 5)$

[2 marks]

$$6x + 3 - 4x + 20$$

Answer  $2x + 23$

**23**

**(a)** Write down the highest common factor (HCF) of 30 and 45

**[1 mark]**

Answer \_\_\_\_\_

15

**(b)** Write down the lowest common multiple (LCM) of 30 and 45

**[1 mark]**

Answer \_\_\_\_\_

90

**24**

Solve

$$5 - 4x \geq 12$$

**[2 marks]**

$$+4x + 4x$$

$$5 \geq 4x + 12$$

$$-7 \geq 4x$$

Answer \_\_\_\_\_

$$\frac{-7}{4} \geq x$$

**25**

Sam invests £3500 into a bank account paying 5.4% compound interest, **[3 marks]**  
per annum, for 3 years.

Work out the total amount of interest gained after 3 years.

$$3500 \times 1.054^3$$

Answer £4098.16

**26**

A number,  $n$ , is rounded to 2 significant figures.  
The result is 2.3  
Complete the error interval for  $n$

**[2 marks]**

$$\underline{2.25} \leq n < \underline{2.35}$$

27

Frankie travels 400km in 4 hours and 48 minutes.

[2 marks]

Work out his average speed, giving your answer as a decimal.

$$\frac{48}{60} = \frac{4}{5} = 0.8 \quad 4 + 0.8 = 4.8$$

$$400 \div 4.8 = 83.\dot{3}$$

Answer 83.3 km/h

28 A linear sequence has:

2<sup>nd</sup> term = 190

5<sup>th</sup> term = 166

$$\begin{array}{cccccc} \underline{198} & \underline{190} & \underline{182} & \underline{174} & \underline{166} & \\ & \rightarrow & \rightarrow & & & \\ & -8 & -8 & & & \end{array}$$

(a) Work out the nth term of the sequence

[2 marks]

$$\begin{array}{l} 3 \text{ jumps} = 24 \\ 1 \quad \quad = 8 \end{array}$$

Answer  $-8n + 206$

(b) Work out the first term in the sequence that is negative

[2 marks]

$$-8n + 206 < 0$$

$$n = 25.75 \quad 26^{\text{th}} \text{ term}$$

Answer -2

**END OF QUESTIONS**