BennettMaths will be live on TikTok the night before paper 1, going through all the predicted papers.
Wednesday 13th May at 8pm

Candidate surname	Other names

BennettMaths
Engaging Learners

AQA

Best Guess Paper – 1F Non-Calculator

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

There may be other topics that appear on paper 1, so please ensure that you continue to revise all topics.

The paper consists of 28 questions totalling 80 marks.

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1 Simplify $12:14$ **[1 mark]**

Answer 6:7

2 Convert 34% into a decimal **[1 mark]**

Answer 0.34

3 List the factors of 10 **[1 mark]**

Answer 1, 2, 5, 10

4 Simplify $5a + a - 2a$ **[1 mark]**

5+1−2 = 4

Answer 4a

5 Sam's dog eats 2 tins of food per day.
Each tin of food costs £2.50.

Work out the total cost to buy a week's worth of dog food. **[3 marks]**

2 x £2·50 = £5

£5 x 7 = £35

Answer £35

1hr 35m

6 A movie starts at 2:30pm. It ends 95 minutes later.
Work out the time that the movie ends. **[2 marks]**

2:30 pm + 1hr = 3:30 pm

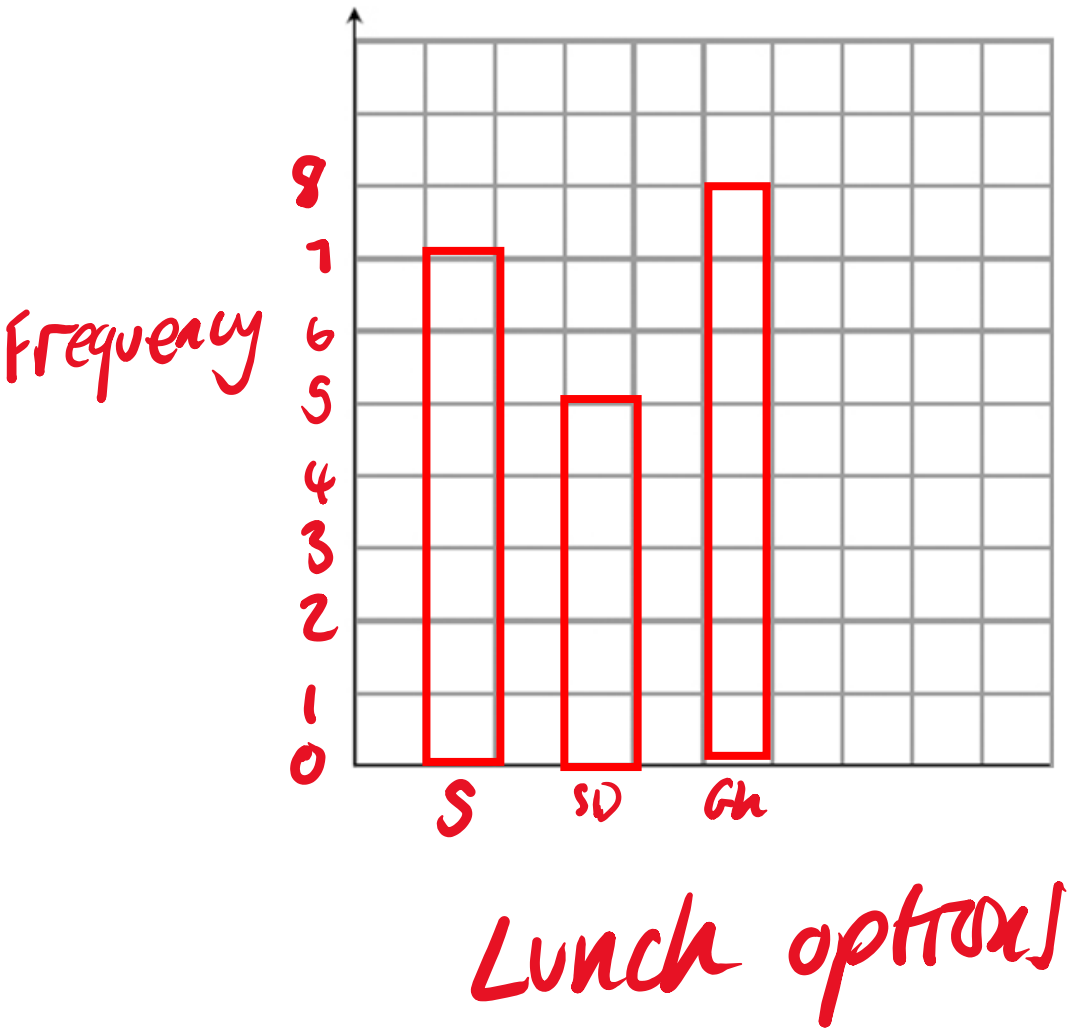
3:30pm + 35m = 4:05 pm

Answer 4:05 pm

7 This table shows what 20 students do for lunch. **[4 marks]**

Sandwiches	School dinner	Go home
7	5	8

Draw a bar chart to show this information.



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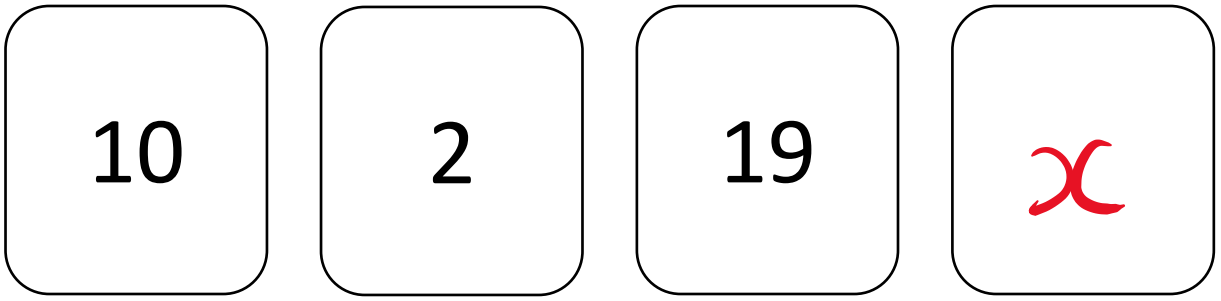


Four cards have a number written on them. One of the cards is turned over.
The mean average of the four numbers is 7.5.

Write down the number that is on the final card. **[3 marks]**

$\frac{10+2+19+x}{4} = 7.5$

$31+x=30$

$x=-1$

Answer $x=-1$

9 (a) Expand $3(2x - 4)$

[1 mark]

Answer $6x-12$

(b) Factorise fully $12x + 40y$

[1 mark]

Answer $4(3x+10y)$

(c) Simplify $(a^3)^5$

[1 mark]

Answer a^{15}

(d) Simplify $x^2 \times x^3$

[1 mark]

Answer x^5

(e) Solve $5(x + 8) = -11x$

[3 marks]

$5x+40=-11x$

$40=-16x$

$\frac{40}{-16}=x$

$x=-2.5$

Answer $x=-2.5$

10 There are red, blue and green counters in a bag.
The probability of selecting a red or blue counter is shown in the probability table.

Red	Blue	Green
0.4	0.25	0.35

(a) Complete the probability table to show the probability of selecting a green counter.

[1 mark]

(b) Write down the fraction of the counters that are Blue.
Give your answer in its simplest form.

[2 marks]

$\frac{0.25}{1} = \frac{1}{4}$

Answer _____

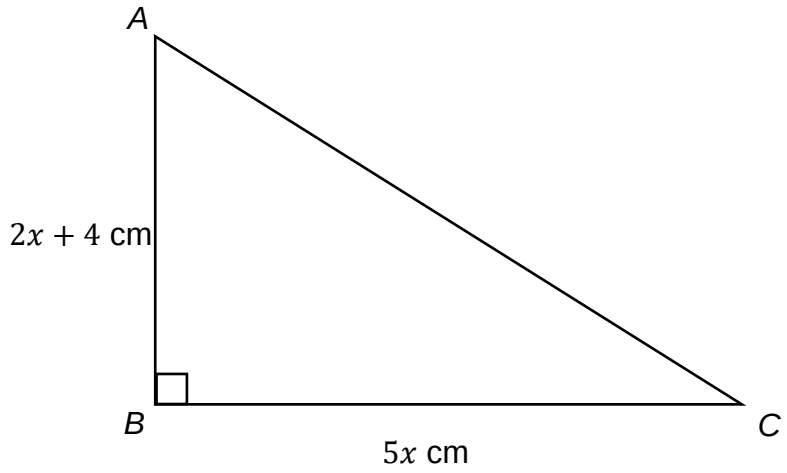
11 Work out 30% of 186

[2 marks]

10% = 18.6
30% = 55.8

Answer _____

12 *ABC* is a right-angled triangle.
AB = $2x + 4$ cm
BC = $5x$ cm



(a) Work out the area of the triangle.
Giving your answer in the form $ax^2 + bx$ cm^2. Where a and b are integers

[3 marks]

$\frac{5x(2x+4)}{2} = \frac{10x^2+20x}{2}$

Answer $5x^2 + 10x$

(b) The area of another shape is $4x^2 + 6x$.
If the value of x is 3.
Work out the value of the area of this shape.

[2 marks]

$4(3)^2 + 6(3)$
$36 + 18$

Answer 54

13 Convert $12mm^2$ into cm^2 **[2 marks]**

$\times 10^2$

12×10^2

Answer 1200

14 Leo and Margot share some money in the ratio 7:2. **[3 marks]**
Leo receives £35 more than Margot.

Work out how much money Margot receives

5 parts = 35
1 part = 7
2 parts = 14

Answer £14

15 **[3 marks]**

$$P = \frac{\sqrt{98} + 4.5^2}{0.48}$$

By rounding each number to one significant figure, work out the value of P

$\frac{\sqrt{100}+5^2}{0.5} = \frac{10+25}{0.5} = \frac{35}{0.5}$

Answer 70

16 **[2 marks]**

It takes 5 workers 6 days to complete a project.

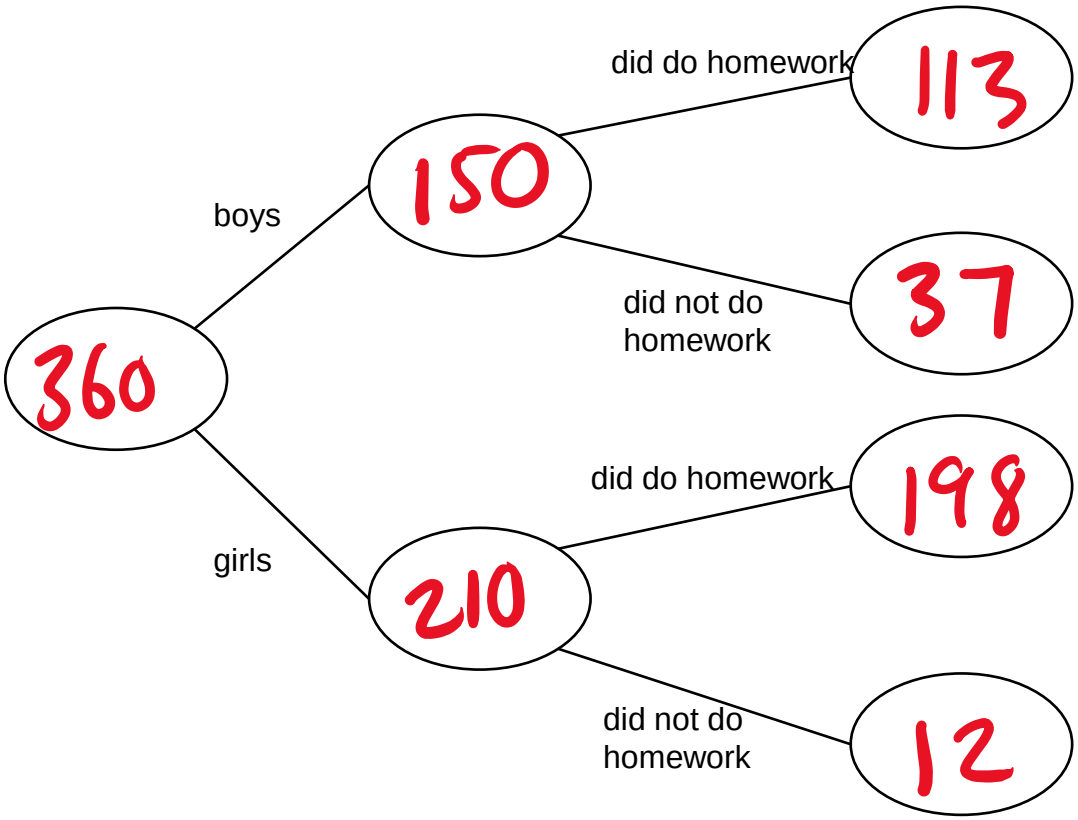
Assuming all workers complete the work at the same rate.
Work out how long it would take 2 workers to complete the project.

$5 \times 6 = 30$
$30 \div 2 = 15$

Answer 15 days

17 360 students have some homework.
150 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 girls is chosen at random.
Write down the probability that they did do their homework **[2 marks]**

$\frac{198}{210}$

Answer _____

18

Make x the subject of

$$3x + y = ax$$

[3 marks]

$y = ax - 3x$
$y = x(a-3)$

Answer $\frac{y}{a-3} = x$

19 The first number in a linear sequence is 4.
The third number in the sequence is 10.

Write down an expression, in terms of n, for the nth term of this sequence. **[3 marks]**

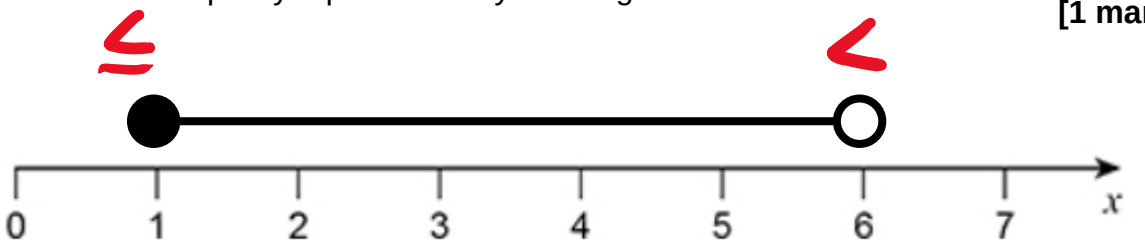
4, 7, 10
+3 +3

Answer $3n+1$

20

(a) Circle the inequality represented by the diagram.

[1 mark]



$1 < x < 6$ $1 \leq x < 6$ $1 \leq x \leq 6$ $1 < x \leq 6$

(b) Circle the list of **all** the integers that satisfy $-1 < x \leq 5$

[1 mark]

$-1,0,1,2,3,4,5$ $-1,0,1,2,3,4$

$0,1,2,3,4$ $0,1,2,3,4,5$

21 Express $5^4 \div 5^{-2} \times 25$ in the form 5^n

5^{-2}

$5^6 \times 5^{-2} = 5^8$

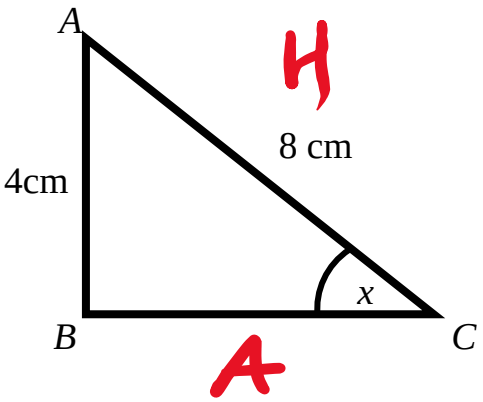
[2 marks]

Answer _____

22

Triangle ABC is shown below.

AB = 4cm
AC = 8cm



O H A

Work out the size of angle x

[3 marks]

$\sin(x) = \frac{4}{8} = \frac{1}{2}$

$x = 30$

30

Answer _____

23 A number, n, is rounded to 2 significant figures.
The result is 26.
Complete the error interval for n

[2 marks]

$25.5 \leq n < 26.5$

24 ABCD is a rectangle.

$3\frac{3}{4}\ cm = 3\frac{6}{8} = \frac{15}{4}$

$\frac{11}{8} = 1\frac{3}{8}\ cm$

(a) Work out the perimeter of ABCD

[3 marks]

$\left(1\frac{3}{8} + 3\frac{2}{8}\right) \times 2$

$5\frac{1}{8} \times 2$

Answer $10\frac{2}{8}$

(b) Work out the area of ABCD

[2 marks]

$\frac{11}{8} \times \frac{15}{4} = \frac{165}{32}$

Answer

25 Margot takes part in a 5 km fun run.

During the first 3 km she runs at an average speed of 6 km/h.

She is aiming to complete the race in under 54 minutes.

Work out the average speed that she needs to maintain to finish in under 54 minutes.

[4 marks]

$\frac{3}{6} = 0.5 \text{ hours} = 30 \text{ mins}$

$54 - 30 = 24 \text{ mins}$

$5 - 3 = 2 \text{km}$

$2 \text{km} : 24 \text{ mins}$

$1 \text{km} : 12 \text{ mins}$

$5 \text{km} : 60 \text{ mins}$

Answer 5 km/h

26 Solve

$$3x - 4 = 5x + 7$$

[3 marks]

$-3x \quad -3x$

$-4 = 2x + 7$

$-11 = 2x$

$\frac{-11}{2} = x$

$-5.5 = x$

Answer _____

27 Work out

$$800 \times (2 \times 10^2)$$

[3 marks]

800×200

160000

or

1.6×10^5

Answer _____

28 Sketch the graph

$$y = x^2 - 4$$

[2 marks]