



Solutions

Foundation GCSE Green - Set 1 Paper 1

	Q	Topic	My Mark	Max Marks
Non Calculator	1	Money calculations		6
	2	Calculating with fractions		5
	3	Percentages		7
	4	Ratio		5
	5	Algebraic manipulation		6
Calculator	6	Area and perimeter		4
	7	Angle facts		4
	8	Averages from lists		5
	9	Bar charts		5
	10	Probability		3
				50



Question 1 – Money calculations

Calculate the following, giving your answers in pounds £.

(a) £2.30 + 85p

$$\begin{array}{r} \text{£ } 3.15 \text{ [1]} \\ \hline \text{[1]} \end{array}$$

(b) £5 - £1.37

$$\begin{array}{r} \text{£ } 3.63 \text{ [1]} \\ \hline \text{[1]} \end{array}$$

(c) £2.35 + £1.80 + 95p

$$\begin{array}{r} \text{£ } 5.10 \text{ [1]} \\ \hline \text{[1]} \end{array}$$

(d) Joe bought a box of cards for £6.80
He paid with a £10 note.
How much change should Joe get?

$$\begin{array}{r} \text{£ } 3.20 \text{ [1]} \\ \hline \text{[1]} \end{array}$$

Question 2 – Calculating with fractions

Work out:

a) $\frac{3}{7} + \frac{2}{7}$

$$\frac{5}{7} \quad [1]$$

[1]

(b) $1 - \frac{1}{5}$

$$\frac{4}{5} \quad [1]$$

[1]

(c) $\frac{1}{4} \times \frac{3}{8}$

$$\frac{3}{32} \quad [1]$$

[1]

(d) $\frac{4}{9} \div \frac{3}{5}$

$$= \frac{4}{9} \times \frac{5}{3} \quad [1]$$

$$\frac{20}{27} \quad [2]$$

[2]

Question 3 – Percentages

(a) Find:

i. 50% of 1200

$$\begin{array}{r} 600 \text{ [1]} \\ \hline \end{array} \quad [1]$$

ii. 25% of 1200

$$\begin{array}{r} 300 \text{ [1]} \\ \hline \end{array} \quad [1]$$

iii. 10% of 1200

$$\begin{array}{r} 120 \text{ [1]} \\ \hline \end{array} \quad [1]$$

iii. 5% of 1200

$$\begin{array}{r} 60 \text{ [1]} \\ \hline \end{array} \quad [1]$$

iii. 1% of 1200

$$\begin{array}{r} 12 \text{ [1]} \\ \hline \end{array} \quad [1]$$

(b) Hence or otherwise, find 45% of 1200.

$$45\% = 50\% - 5\%$$

$$= 600 - 60$$

$$= 540 \text{ [2]}$$

[1] *Shows any fully correct method*

$$\begin{array}{r} 540 \text{ [2]} \\ \hline \end{array} \quad [2]$$

Question 4 – Ratio

(a) Simplify fully 18 : 30

9 : 15 or 6 : 10 [1]

3 : 5 [2]

[2]

(b) Work out the value of a :

$$4 : 7 = 24 : a$$

42 [1]

$a =$
[1]

(c) There are 1200 passengers on the ship and 900 crew on a ship.

Write down the ratio of the number of passengers to the number of crew.
Give your ratio in its simplest form.

1200 : 900 [1]

4 : 3 [2]

[2]

Question 5 - Algebraic manipulation

(a) Simplify:

i. $6b - b + 8b$

$$\frac{13b \text{ [1]}}{\dots\dots\dots} \text{ [1]}$$

ii. $f \times f \times f \times f \times f$

$$\frac{f^5 \text{ [1]}}{\dots\dots\dots} \text{ [1]}$$

iii. $6j + 2k + j + 3k$

$$7j \text{ or } 5k \text{ [1]}$$

$$\frac{7j + 5k \text{ [2]}}{\dots\dots\dots} \text{ [2]}$$

(b) Work out the value of $6x + 3$ when $x = 7$

$$= 6 \times 7 + 3$$

$$\frac{45 \text{ [1]}}{\dots\dots\dots} \text{ [1]}$$

(c) Solve:

$$x - 5 = 23$$

$$x = \frac{28 \text{ [1]}}{\dots\dots\dots} \text{ [1]}$$

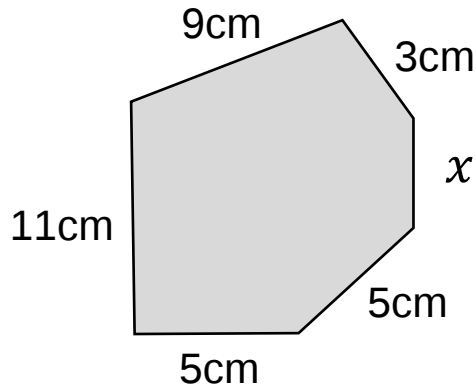


Calculator

Question 6 – Area and perimeter

(a) Below is a hexagon with a perimeter of 36cm.

not to scale



Calculate the length of the side marked x .

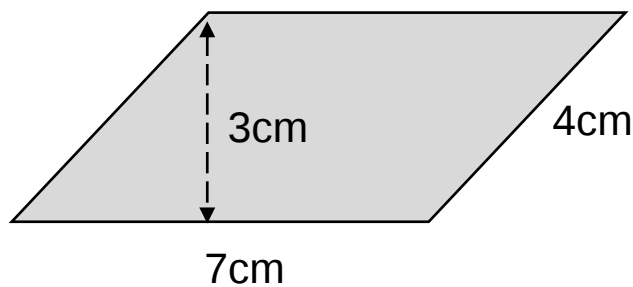
$$9 + 3 + 5 + 5 + 11 = 33\text{cm} \quad [1]$$

$$36 - 33 = 3\text{cm} \quad [2]$$

..... 3 [2] cm
[2]

(b) Below is a parallelogram.

not to scale



Calculate its area.

$$\text{Area} = 7 \times 3 \quad [1]$$

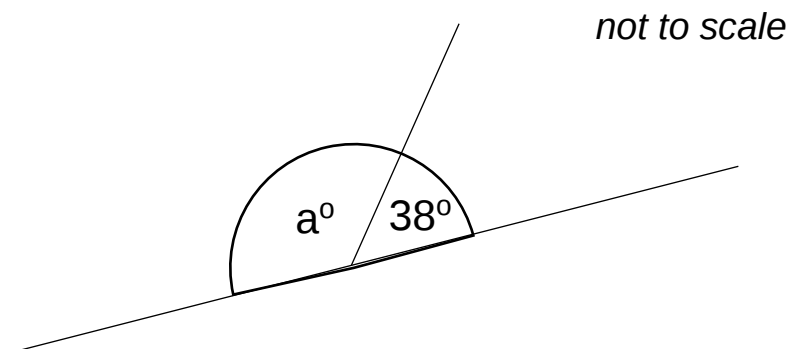
$$= 21\text{cm}^2 \quad [2]$$

..... 21 [2] cm²
[2]

Question 7 – Angle facts

In the diagrams below, find the size of the missing angle.

(a)

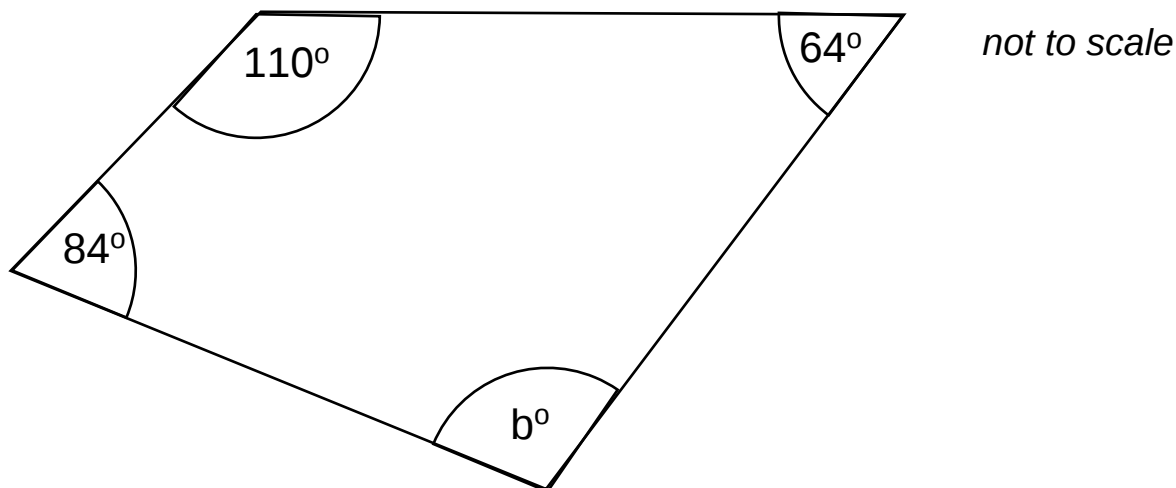


$$180 - 38 \quad [1]$$

$$= 142^\circ \quad [2]$$

$$a = \dots\dots\dots 142 \quad [2]^\circ$$

(b)



$$110 + 64 + 84 = 258^\circ$$

$$360 - 258 = 102^\circ \quad [2]$$

[1] *Correct method seen with arithmetic errors*

$$b = \dots\dots\dots 102 \quad [2]^\circ$$

Question 8 – Averages from lists

Here is a list of 9 numbers

1 2 2 4 6 6 6 7 11

(a) Work out the range

$$11 - 1 = 10 \text{ [1]}$$

$$\begin{array}{r} 10 \text{ [1]} \\ \hline \end{array} \text{ [1]}$$

(b) Write down the mode

$$\begin{array}{r} 6 \text{ [1]} \\ \hline \end{array} \text{ [1]}$$

(c) Work out the median

$$\begin{array}{r} 6 \text{ [1]} \\ \hline \end{array} \text{ [1]}$$

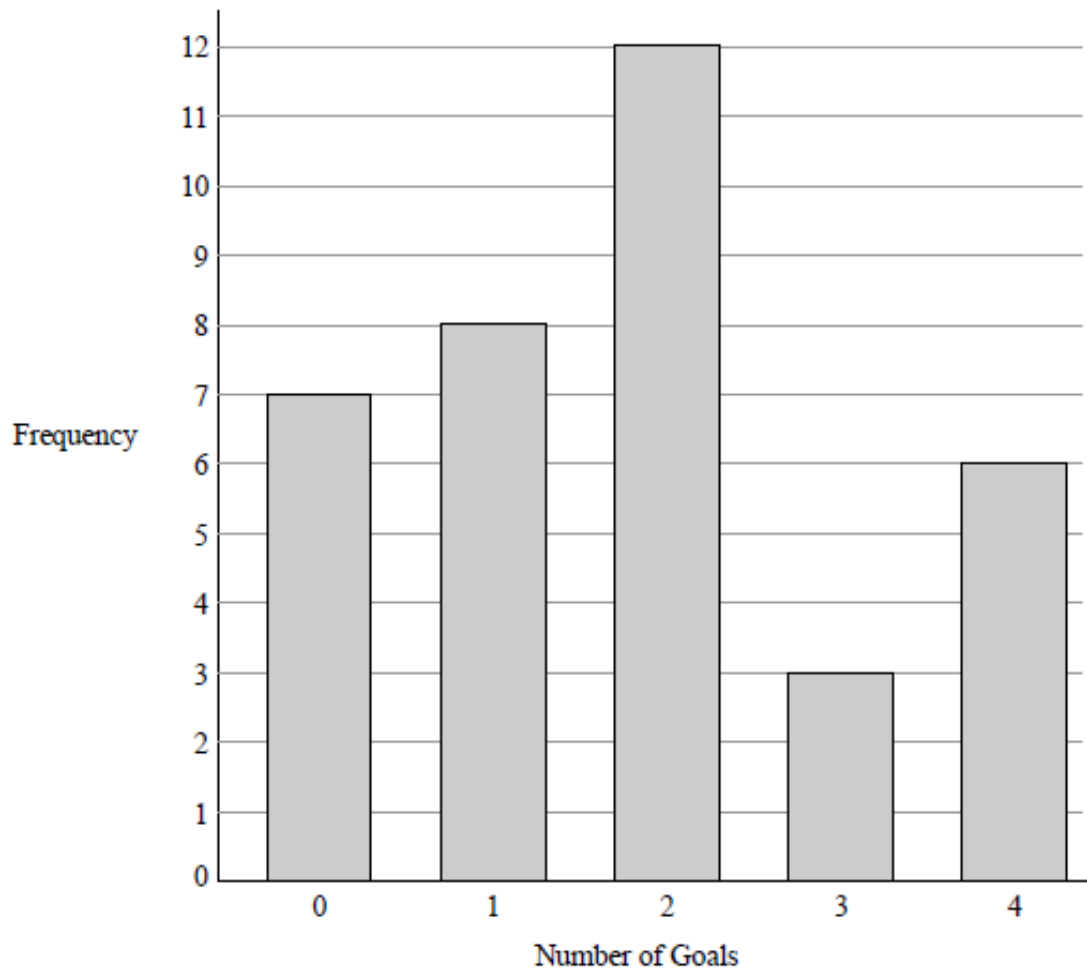
(d) Calculate the mean

$$\begin{aligned} (1 + 2 + 2 + 4 + 6 + 6 + 6 + 7 + 11) \div 9 & \text{ [1]} \\ & = 5 \text{ [2]} \end{aligned}$$

$$\begin{array}{r} 5 \text{ [2]} \\ \hline \end{array} \text{ [2]}$$

Question 9 – Bar charts

Here is a bar chart showing the number of goals scored in a game by a football team in a season.



(a) What is the modal number of goals scored by the team?

2 [1]

[1]

(b) In how many more games did they score 4 goals than 3 goals?

6 and 3 read from graph [1]

3 [2]

[2]

(c) How many games were played altogether?

7 + 8 + 12 + 3 + 6 [1] allow one error

36 [2]

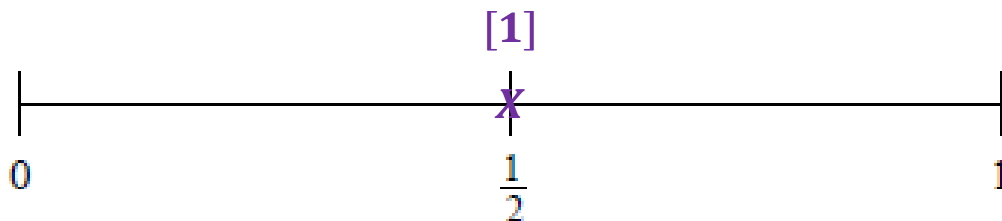
[2]

Question 10 – Probability

There are 8 marbles in a bag.
4 marbles are red.
3 marbles are blue.
1 marble is green.

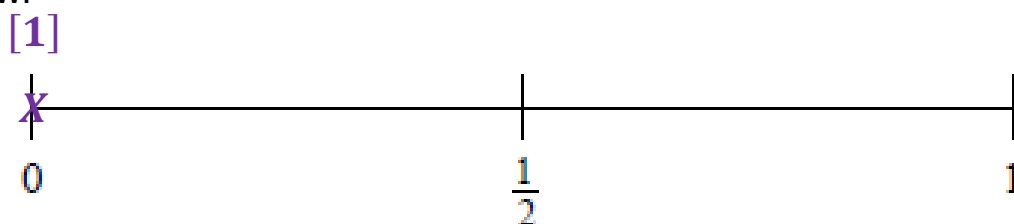
On marble is selected at random from the bag.

- (a) On the probability scale mark with a cross (X) the probability that the marble is red.



[1]

- (b) On the probability scale mark with a cross (X) the probability that the marble is yellow.



[1]

- (c) Write down the probability that marble is blue.

$\frac{3}{8}$ [1]

.....

[1]