GCSE Foundation Worked Solutions

LUCKY MATHS

More papers

SCAN ME

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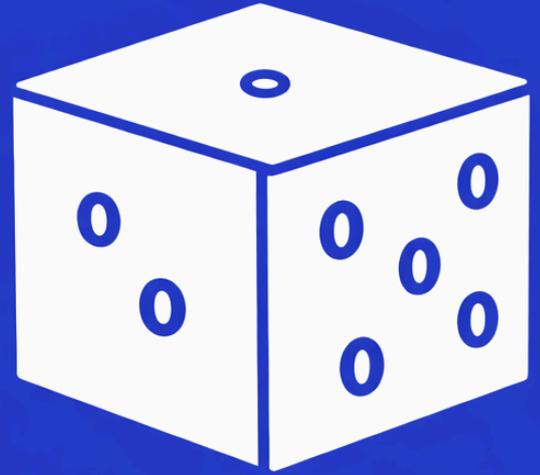
Solutions

Instructions

Use black ink or ball-point pen.
Draw diagrams in pencil.
Write your answers in the spaces provided and show all working.
The total mark for this paper is 40
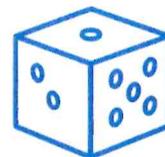
Materials

Black pen
Pencil
Ruler

Answer ALL questions.
Write your answers in the spaces provided.

You must write down all the stages in your working.

1 Write down the value of 2^3

$2 \times 2 \times 2$

.... 8 ....

(Total for Question 1 is 1 mark)

2 Simplify fully $\quad a + a + a$

.... 3a ....

(Total for Question 2 is 1 mark)

3 Write $\frac{3}{5}$ as a decimal.

.... 0.6 ....

(Total for Question 3 is 1 mark)

4 Write 7449 to the nearest hundred.

.... 7400 ....

(Total for Question 4 is 1 mark)

5 Write 2.3 litres in millilitres.

$1L = 1000ml$

2.3×1000

.... 2300 ml ....

(Total for Question 5 is 1 mark)
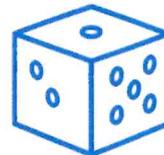
6 Sam and Priya run a half-marathon race.

(a) Sam starts the race at **10:40 am**.

He takes $2\frac{1}{4}$ **hours** to finish the race.

At what time does he **finish**?

2 hours = 120 minutes

$\frac{1}{4}$ = 0.25 hours = 15 minutes

He takes 2 hours and 15 minutes

10:40 + 2 hours = 12:40

12:40 + 15 minutes = 12:55

.... 12:55pm ....

(2)

(b) Priya has a target time of **3 hours 45 minutes**.

She has been running for **142 minutes**.

To meet her target, how many **minutes** does she have left to finish the race?

3 × 60 = 180 minutes

180 + 45 = 225 minutes (Target)

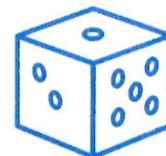Already run 142 minutes

∴ 225 - 142 = 83 minutes

.... 83 Minutes ....

(3)

(Total for Question 6 is 5 marks)

7   Here is a tally chart that shows the favourite colours of some pupils:

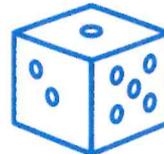| Colour	Tally	Frequency
Red	卌 ||	7
Blue	卌 卌	10
Green	||||	4
Yellow	卌		6
Purple	||	2

(a) Complete the frequency column.

(1)

(b) On the grid, draw a **bar chart** to represent the data from the tally chart.

Favourite colours

(3)
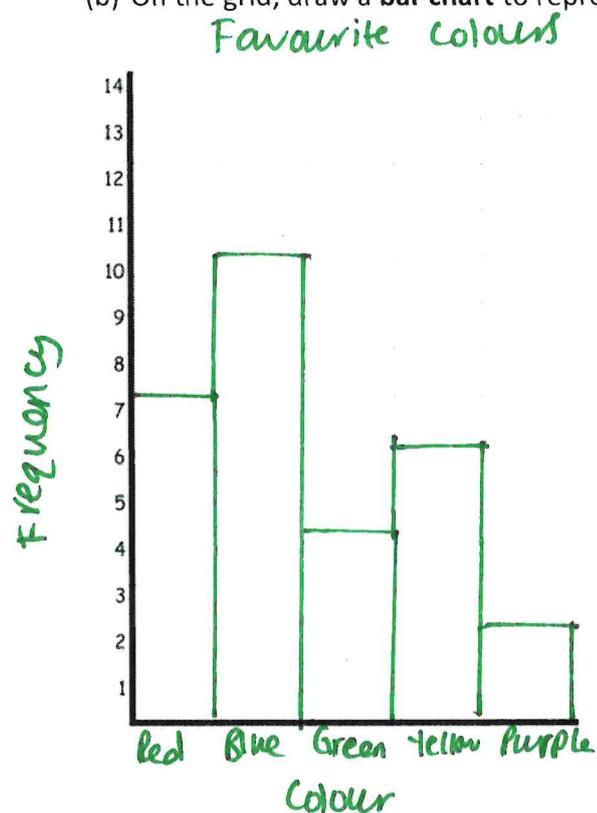
(Total for Question 7 is 4 marks)

8   (a) Simplify $7v + 2w - 4v + w$

$7v - 4v = 3v$
$+2w + w = +3w$

.............$3v + 3w$.............

(2)

(b) Solve $5k + 3 = 11$

$-3 \quad -3$

$\div 5 \left(\begin{array}{c} 5k = 8 \\ k = \dfrac{8}{5} \end{array} \right) \div 5$

.............$\dfrac{8}{5}$ or 1.6.............

(2)

(Total for Question 8 is 4 marks)

9   Daisy worked for **38 hours** last week and was paid **£18.50 per hour**.
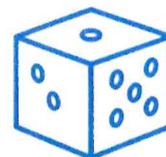
Estimate her weekly earnings

$38 \rightarrow 40$
$£18.50 \rightarrow £20.00$

$40 \times 20 = 800$

.............£800.............

(3)

(Total for Question 9 is 3 marks)

10 Complete the list of six numbers so that:

- The **mode** is 7
- The **median** is 10
- The **range** is 9

Write your numbers in **order**:

$$\underline{7}, 7, \underline{10}, \underline{10}, \underline{7}, 16$$

Range = 9 ∴ Largest = 16 - ? = 9 = (7)

Mode = 7 (Most Common number)

Median = 10 $\dfrac{3rd\ number + 4th\ number}{2} = 10$

3rd number = 10
4th number = 10

Mode = 7
Median = 10
Range = 9

(3)

(Total for Question 10 is 3 marks)

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11 Daniel travels **7.5 miles** in **12 minutes.**

Work out his **average speed** in **miles per hour**.

$\dfrac{12}{60} = 0.2$ hours

$S = \dfrac{d}{t} = \dfrac{7.5}{0.2} = 37.5$

<u>37.5 mph</u>

(3)

(Total for Question 11 is 3 marks)

12 Work out $\frac{5}{8} + \frac{13}{24}$

Give your answer as a **mixed number**.

$$\frac{5}{8} = \frac{5 \times 3}{8 \times 3} = \frac{15}{24}$$

$$\frac{15}{24} + \frac{13}{24} = \frac{28}{24} = \frac{7}{6} = 1\frac{1}{6}$$

$1\frac{1}{6}$

(2)

(Total for Question 12 is 2 marks)

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13 James has a rectangular floor that is **10 m long** and **6 m wide**.

He wants to cover the floor completely with **carpet tiles**.

Each carpet tile is a square with sides of **40 cm**.

Each carpet tile costs **£3.75**.

Work out the **total cost** of covering the floor completely with carpet tiles.

Area $= 10 \times 6 = 60 \, m^2$

$40 \, cm = 0.4 \, m$

Tile Area $= 0.4 \times 0.4 = 0.16 \, m^2$

$\frac{60}{0.16} = 375$ tiles

$375 \times 3.75 = £1406.25$

£1406.25

(3)

(Total for Question 13 is 3 marks)

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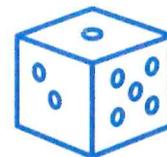
14 **50%** of a number is **20**.

Work out **180%** of the number.

$\frac{1}{2} \times x = 20$

Number $= 40$

$1.8 \times 40 = 72$

........................72........................

(3)

(Total for Question 14 is 3 marks)

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15 **Ava** has **£120**.

She gives **75%** of her money to **Ethan**.

Ethan **spends** $\frac{1}{3}$ of this money.

He gives the **rest back** to Ava.

What **fraction of the £120** does Ava have now?

Give your answer in its **simplest form**.

$75\% = \frac{75}{100} = \frac{3}{4}$ $\frac{90}{120} = \frac{3}{4}$

$\frac{3}{4} \times 120 = 90$

$120 - 90 = 30$

$\frac{1}{3} \times 90 = 30$

$90 - 30 = 60$

$60 + 30 = 90$

AVa now has £90

........................$\frac{3}{4}$........................

(5)

(Total for Question 15 is 5 marks)

TOTAL FOR PAPER IS 40 MARKS