

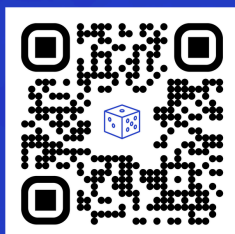
GCSE Foundation Worked Solutions

Paper 3c
Calculator

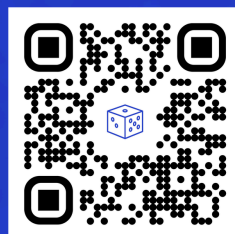
LUCKY MATHS



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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

Scientific Calculator

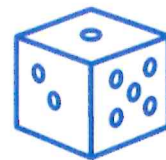
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Answer ALL questions.

Write your answers in the spaces provided.

You must write down all the stages in your working.

- 1 Work out: $7.4 + 3.58$

10.98

(Total for Question 1 is 1 mark)

- 2 Write 36 as a fraction of 90 in its simplest form.

$\div$ Numerator and denominator
by 18

$\frac{36}{90} = \frac{2}{5}$

(Total for Question 2 is 1 mark)

- 3 Simplify: $5x + 3x$

8x

(Total for Question 3 is 1 mark)

- 4 Express the ratio 12 : 18 in its simplest form.

$12 \div 6 = 2$
 $18 \div 6 = 3$

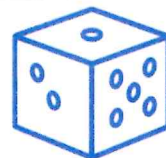
2:3

(Total for Question 4 is 1 mark)

- 5 Round 2.224 to 2 decimal places.

2.22

(Total for Question 5 is 1 mark)



- 6 (a) Write 0.35 as a percentage.

$$0.35 \times 100$$

35%

(1)

- (b) Work out 35% of 240.

$$\begin{aligned} 35 &= 0.35 \\ 0.35 \times 240 &= 84 \end{aligned}$$

84

(2)

(Total for Question 6 is 3 marks)

- 7 Solve the equation: $4x - 7 = 13$

$$\begin{array}{r} +7 \quad +7 \\ \hline 4x = 20 \\ \div 4 \quad \div 4 \\ \hline x = 5 \end{array}$$

$x = 5$

(2)

(Total for Question 7 is 2 marks)

- 8 (a) Write down the next two terms of the sequence:

4, 7, 10, 13, ...

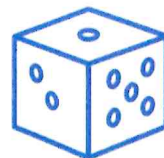
Term to Term Rule = +3

$$13 + 3 = 16$$

$$16 + 3 = 19$$

16 and 19

(2)



(b) Find the **nth term** of the sequence.

1, 4, 7, 10, 13
-3 +3 +3

$$3n + 1$$

$$3n + 1$$

(2)

(Total for Question 8 is 4 marks)

9 Here are the prices of **two different** shops for the **same** item:

- Shop A: £12.50
- Shop B: reduced by **20%** from £15

Which **shop** is **cheaper**, and by how much?

$$20\% = 0.20$$

$$0.20 \times 15 = 3 \Rightarrow \text{Discount } \pounds 3.$$

$$15 - 3 = 12.$$

$$\therefore \text{Shop B} = \pounds 12$$

$$\text{Shop A} = \pounds 12.50$$

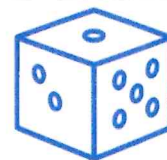
$$\text{Shop B} = \pounds 12.00$$

$$\pounds 12.50 - \pounds 12.00 = \pounds 0.50$$

Shop B by 50p

(4)

(Total for Question 9 is 4 marks)



- 10 (a) Work out: $\frac{3}{4} \times 28$

$$\frac{3}{4} \times 28$$

$$\frac{3 \times 28}{4} = \frac{84}{4} = 21$$

21

(2)

- (b) Work out: $56 \div \frac{1}{2}$

$$56 \div \frac{1}{2}$$

$$= 56 \times 2 = 112$$

112

(2)

(Total for Question 10 is 4 marks)

- 11 A recipe uses the following ratio of flour to sugar: 5:3

You want to use **270 g** of flour.

How much **sugar** should you use?

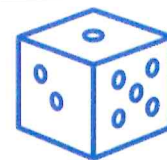
$$270 \div 5 = 54$$

$$3 \times 54 = 162$$

162g of sugar

(4)

(Total for Question 11 is 4 marks)



- 12 A shop sells stickers in packets of 6.

Mr James needs 140 stickers.

How many **packets** must he buy?

$$140 \div 6 = 23.33 \text{ (round to 24)}$$

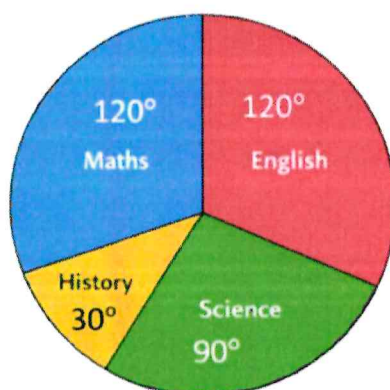
24 packets.

(2)

(Total for Question 12 is 2 marks)

- 13 The pie chart shows the favourite subjects of a class.

Favourite Subjects of 60 Students



- (a) What **fraction** of the class chose **History**? Give your answer in **simplest form**.

$$\frac{30}{360} = \frac{1}{12}$$

$$\frac{30}{360} = \frac{1}{12}$$

(2)

- (b) There are 60 students in the class.

How many students chose **Science**?

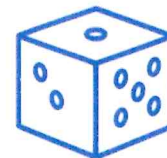
$$\frac{90}{360} = \frac{1}{4}$$

15 students

$$\frac{1}{4} \times 60 = 15$$

(2)

(Total for Question 13 is 4 marks)



- 14 A taxi charges a **fixed fee of £3.60** plus **£1.25 per mile**.

(a) Write a formula for the total cost C when the number of miles is m .

Fixed fee - £3.60
Cost per mile - £1.25

$$C = 3.60 + 1.25m$$

(2)

(b) Use your formula to find the cost of a 12-mile journey.

$$C = 3.60 + 1.25m$$

$$C = 3.60 + 1.25 \times 12$$
$$= 1.25 \times 12 = 15$$

$$C = 3.60 + 15 = 18.60$$

£18.60

(2)

(Total for Question 14 is 4 marks)

- 15 A shop sells notebooks at **£3 each** and pens at **£2 each**.

(a) Write an expression for the total cost, £ C , of buying

- n notebooks
- p pens

$$C = 3n + 2p$$

(2)

A student buys **5 notebooks** and **3 pens**.

(b) Use your **expression** to work out the **total cost**.

$$C = 3 \times 5 + 2 \times 3$$
$$= 15 + 6 = 21$$

£21

(2)

(Total for Question 15 is 4 marks)

TOTAL FOR PAPER IS 40 MARKS