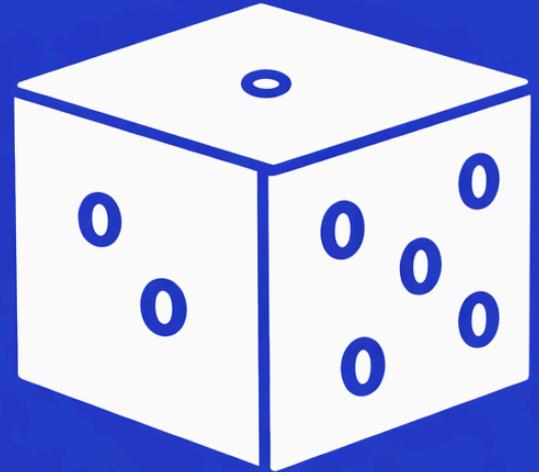


GCSE Foundation Worked Solutions

Paper 2b
Calculator

LUCKY MATHS



More papers



SCAN ME



SCAN ME

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

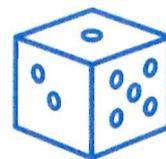
Disclaimer:

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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 Write **0.27** as a fraction.

$$\frac{27}{100}$$

.....
(Total for Question 1 is 1 mark)

2 Simplify fully $y \times y \times y$

$$y^3$$

.....
(Total for Question 2 is 1 mark)

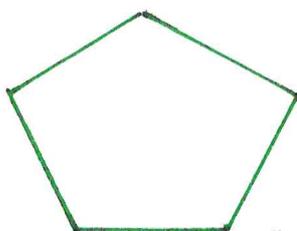
3 Change **40 centimetres** to millimetres.

$$1 \text{ cm} = 10 \text{ mm}$$
$$40 \times 10 = 400$$

$$400$$

.....mm
(Total for Question 3 is 1 mark)

4 Draw a pentagon.

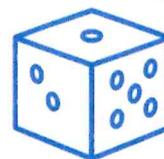


.....
(Total for Question 4 is 1 mark)

5 What is the name of an angle that is **less than 90°**

Acute Angle

.....
(Total for Question 5 is 1 mark)



6 A delivery van uses **1 litre** of fuel to travel **5 miles**.

Fuel costs **£1.20 per litre**.

Calculate the cost of fuel, **in pounds**, to travel **300 miles**.

$$300 \div 5 = 60 \text{ litres}$$
$$60 \times \text{£}1.20 = \text{£}72$$

£72

(3)

(Total for Question 6 is 3 marks)

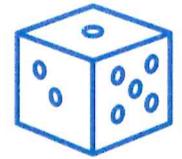
7 Complete each statement by using one of these symbols: < = >

(a) 3.67 3.7

(b) 0.6 $\frac{3}{5}$

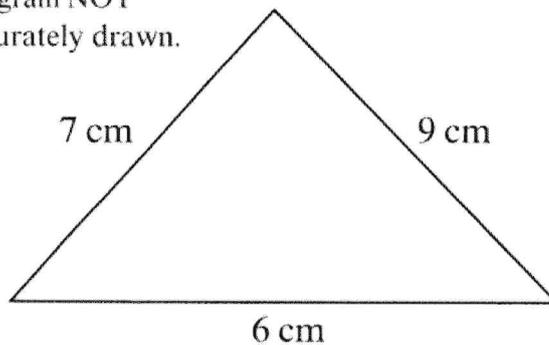
(c) $\frac{7}{3}$ 2

(Total for Question 7 is 3 marks)



- 8 Work out the **perimeter** of the triangle below.

Diagram NOT
accurately drawn.



$$7 + 9 + 6 = 22$$

..... 22 cm

(2)

(Total for Question 8 is 2 marks)

-
- 9 Four numbers have a **mean** of 12.

Three of the numbers are 7, 10 and 15

Work out the **other** number.

$$12 \times 4 = 48$$

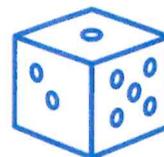
$$7 + 10 + 15 = 32$$

$$48 - 32 = 16$$

..... 16

(3)

(Total for Question 9 is 3 marks)



10 A linear sequence begins 8 , 11 , 14 , 17

(a) Work out an **expression** for the **nth term**.

$$5, 8, 11, 14, 17$$

↑ ↑ ↑ ↑
-3 +3 +3 +3

$$3n+5$$

$$\underline{3n+5}$$

(2)

(b) Work out the **100th** term.

$$3 \times 100 = 300$$
$$300 + 5 = 305$$

$$\underline{305}$$

(2)

(Total for Question 10 is 4 marks)

11 There are **40** students in a class.

18 of the students bring a packed lunch.

(a) Work out the ratio of:
students bringing a packed lunch : students not bringing a packed lunch.

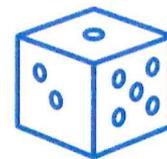
Give your answer in its **simplest form**.

$$40 - 18 = 22$$

$$\div 2 \left(\begin{array}{l} 18 : 22 \\ \downarrow \quad \downarrow \\ 9 : 11 \end{array} \right) \div 2$$

$$\underline{9:11}$$

(2)



(b) The ratio **10 : 25** is written in the form **1 : n**.

Work out the value of **n**.

$$\begin{array}{l} 1 : n \\ \div 10 \left(\begin{array}{l} 10 : 25 \\ 1 : 2.5 \end{array} \right) \div 10 \end{array}$$

.....
2.5

(1)

(Total for Question 11 is 3 marks)

12 Brad asked **40** people to name their favourite **colour**. Here are some of their results:

Blue	14
Red	10
Green	$3x$
Yellow	x

(a) Work out how many people chose **green** and **yellow**.

$$14 + 10 + 3x + x = 40$$

$$\begin{array}{r} 24 + 4x = 40 \\ - 24 \quad - 24 \end{array}$$

$$\begin{array}{l} \div 4 \left(\begin{array}{l} 16 = 4x \\ 4 = x \end{array} \right) \div 4 \\ \therefore x = 4 \end{array}$$

$$\begin{array}{l} \text{Yellow} = 4 \\ \text{Green} = 3 \times 4 = 12 \end{array}$$

.....
Yellow = 4
Green = 12

(2)



(b) Complete the pictogram:

Key: 	= 4 people
--	------------

Blue	
Red	
Green	
Yellow	

$$12 \div 4 = 3$$

$$4 \div 4 = 1$$

(2)

(Total for Question 12 is 4 marks)

13 Sophie buys 2 lengths of wood at £9.50 per length.

She also buys 6 lengths of plastic tubing.

Altogether, the items cost £72.

Work out the cost of one length of plastic tubing.

$$2 \times 9.50 = 19$$

$$72 - 19 = 53$$

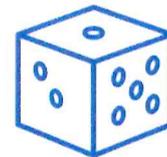
$$53 \div 6 = 8.833$$

$$\therefore \text{£}8.83$$

£8.83

(4)

(Total for Question 13 is 4 marks)

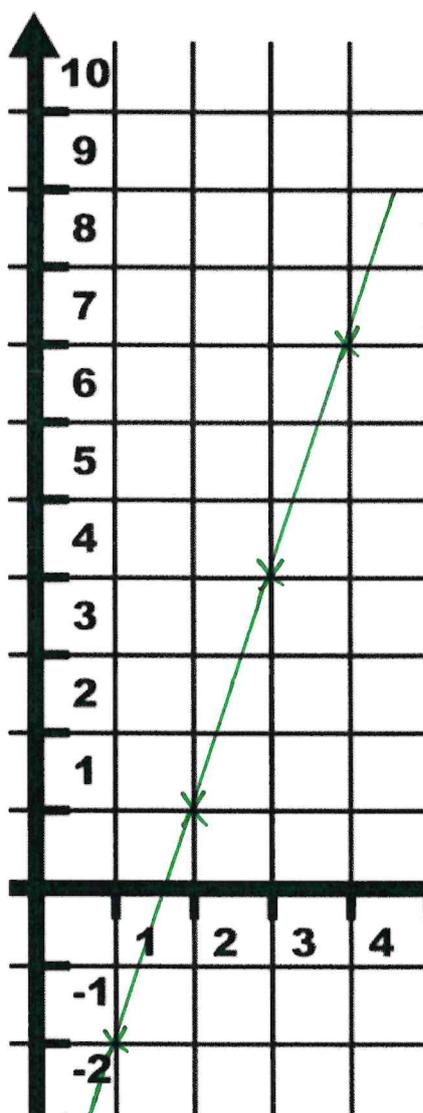


14 Here is a table of values for the equation: $y = 3x - 5$

(a) Complete the **table of values**

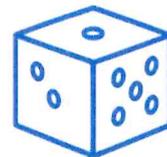
x	1	2	3	4
y	-2	1	4	7

(b) On the grid provided, **plot** the graph of $y = 3x - 5$.



(4)

(Total for Question 14 is 4 marks)



15 There are **45** sweets in a jar.

The sweets are strawberry, lemon, apple or cola flavour.

9 sweets are **strawberry**.

There are an **equal number** of lemon, apple and cola sweets.

(a) How many **lemon** sweets are in the jar?

$$45 - 9 = 36$$

$$36 \div 3 = 12$$

.....
12

(2)

Later, **15 more sweets** are added to the jar.

A sweet is picked at random.

The **probability** that the sweet is **strawberry** is **0.4**.

(b) How many of the **15 sweets added** to the jar are **strawberry**?

$$9 + x$$
$$45 + 15 = 60$$

$$P(\text{Strawberry}) = 0.4$$

$$\frac{\text{Strawberry}}{\text{Total}} = 0.4$$

$$\frac{9 + x}{60} = 0.4$$

$$9 + x = 0.4 \times 60$$

$$9 + x = 24$$
$$-9 \quad -9$$

$$x = 15$$

.....
15

(3)

(Total for Question 15 is 5 marks)

TOTAL FOR PAPER IS 40 MARKS