GCSE Foundation
Worked Solutions Paper 1b

LUCKY MATHS

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SCAN ME

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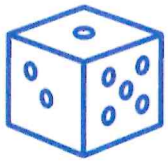
Solutions

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
Scientific Calculator



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 the **5** in the number 63.58.

0.5

(Total for Question 1 is 1 mark)

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2 Find $\frac{1}{8}$ of 7200.

7200 ÷ 8 = 900
900 x 1 = 900

900

(Total for Question 2 is 1 mark)

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3 Write **29%** as a fraction.

$\frac{29}{100}$

(Total for Question 3 is 1 mark)

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4 Work out $\sqrt{58}$

7.6

(Total for Question 4 is 1 mark)

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5 Write down **two** factors of 16

1 x 16
2 x 8
4 x 4

1, 2, 4, 8 or 16

(Total for Question 5 is 1 mark)

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6 Abbie has some **£5** notes and some **£20** notes.
The notes have a total value of **£290**.
Abbie has **eight** £20 notes.

Work out the number of **£5** notes that Abbie has.

$8 \times 20 = 160$ ∴ £160 is from £20 notes
£290 − £160 = £130

£130 ÷ 5 = 26

26 £5 notes

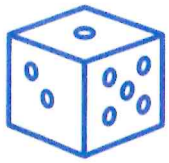
(Total for Question 6 is 3 marks)

7

Albert can choose **one** drink and **one** snack.
Write down all of the possible combinations Albert could choose.

SM, SC, SD, MM, MC, MD, WM, WC, WD

(Total for Question 7 is 2 marks)



8 There are **100 counters in a bag**.
72 of the counters are blue.
28 of the counters are red.

(a) What fraction of the counters are blue?

$\frac{72}{100} = \frac{18}{25}$

÷4

$\frac{18}{25}$

(1)

(b) What percentage of the counters are red?

$\frac{28}{100} = 28\%$

28%

(1)

(c) Write the ratio of red to blue counters. Give your answer in its simplest form.

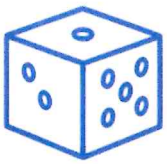
Red : Blue
28 : 72

28 ÷ 4 = 7
72 ÷ 4 = 18

7 : 18

(2)

(Total for Question 8 is 4 marks)



9 A team plays **40 games**.
The team **wins** $\frac{1}{5}$ of the games.
The number of games the team loses is **the same** as the number of games the team draws.

Work out the number of games the team **loses.**

$\frac{1}{5} \times 40 = 8$ ∴ The team wins 8 games

$40 - 8 = 32$ ∴ 32 games either losses or draws.

$\div 2 \left(\begin{matrix} 2x = 32 \\ x = 16 \end{matrix} \right) \div 2$

16

(3)

(Total for Question 9 is 3 marks)

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10 (a) Simplify $\frac{x^6}{x^2}$

x^{6-2}

x^4

(1)

(b) Simplify $(a^2)^3$

$a^{2 \times 3}$

a^6

(1)

(c) Simplify $\frac{m^4 \times m^2}{m^3}$

$m^{4+2} = m^6$
$m^{6-3} = m^3$

m^3

(2)

(Total for Question 10 is 4 marks)

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11 **Brad buys a laptop.**
The laptop costs **£900.**
Brad pays a deposit of **15%** of the cost.
He pays the rest of the cost in 12 equal monthly payments.

Brad says that each monthly payment is **less than £70.**
Is Brad correct?
You must show how you get your answer.

15% of 900 = 0.15 x 900 = 135

Brad pays £135 deposit.

900 - 135 = 765

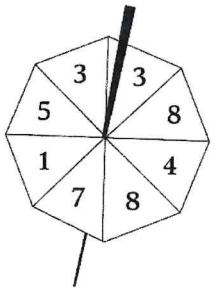
765 ÷ 12 = 63.75

Each Monthly payment is £63.75

Yes Brad is correct £63.75 < £70.00

(Total for Question 11 is 3 marks)

12 Here is a fair 8 sided spinner.



Alex spins the spinner once.

(a) Is Alex more likely to get a **odd number** or an **even number**?
Give a reason for your answer.

Alex is more likely to get an odd number when spinning the spinner as there are more odd numbers than even.

(1)

Alice spins the spinner once.

(b) Write down the probability that Alice gets an **8**.

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

$\frac{1}{4}$

(1)

Sophie spins the spinner 200 times.

(c) Work out an estimate for the number of times Sophie gets a **3**.

$P(3) = \frac{2}{8} = \frac{1}{4}$

$\frac{1}{4} \times 200 = 50$

50

(2)

(Total for Question 12 is 4 marks)

13 A school playground is in the shape of a **rectangle** measuring **80m by 45m.**
The **area** used for **tennis courts** is in the ratio of **7:13** to the **area** used for **open space**.

Work out the area of the playground that is **open space**

$80 \times 45 = 3600m^2$

Ratio = $7 + 13 = 20$ parts

$3600 \div 20 = 180m^2$

$13 \times 180 = 2340m^2$

$2340m^2$

(4)

(Total for Question 13 is 4 marks)

14 Mia has:

- **40 small gift boxes**
- **2 medium gift boxes**
- **1 large gift box**

She wants to wrap ribbon around each box.

- Each **small box** needs **40 cm** of ribbon.
- Each **medium box** needs **85 cm** of ribbon.
- The **large box** needs **3 times** the ribbon of a medium box.

Mia thinks **20 m** of ribbon will be enough.

Is Mia correct?

You must show how you get your answer.

40 small boxes x 40 cm = 1600 cm
2 medium boxes x 85 cm = 170 cm
1 large box = 255 cm

1600 + 170 + 255 = 2025 cm

20m = 2000 cm

Mia needs 2025 cm and she has 2000 cm
∴ Mia does not have enough Ribbon

25 cm short

(5)
(Total for Question 14 is 5 marks)

15 Liam recorded the number of people in each of 60 taxis.
The table shows his results.

Number of people	Frequency	fx
1	18	18
2	20	40
3	9	27
4	8	32
5	5	25

Work out the **mean** number of people per taxi.
Give your answer to **one decimal place**.

$18 + 40 + 27 + 32 + 25 = 142$

Total of 142 people

Mean $= 142 \div 60 = 2.366$

$\therefore 2.4$

2.4

(3)

(Total for Question 15 is 3 marks)

TOTAL FOR PAPER IS 40 MARKS