GCSE Foundation
Worked Solutions Paper 2a

LUCKY MATHS

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SCAN ME

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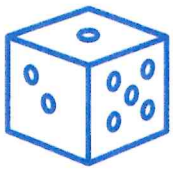
Solutions

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 **24 586** correct to the **nearest thousand**.

25,000

(Total for Question 1 is 1 mark)

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2 Write **0.75** as a fraction.

$\frac{75}{100}$ or $\frac{3}{4}$

(Total for Question 2 is 1 mark)

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3 Change **875 centimetres** into metres.

875 ÷ 100

8.75 m

(Total for Question 3 is 1 mark)

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4 Simplify **5 × 3g**

15g

(Total for Question 4 is 1 mark)

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5 Here is a list of numbers:
48, 72, 96, 108, 144
One of these numbers is **not** a **multiple** of **24**.
Which number?

108

(Total for Question 5 is 1 mark)

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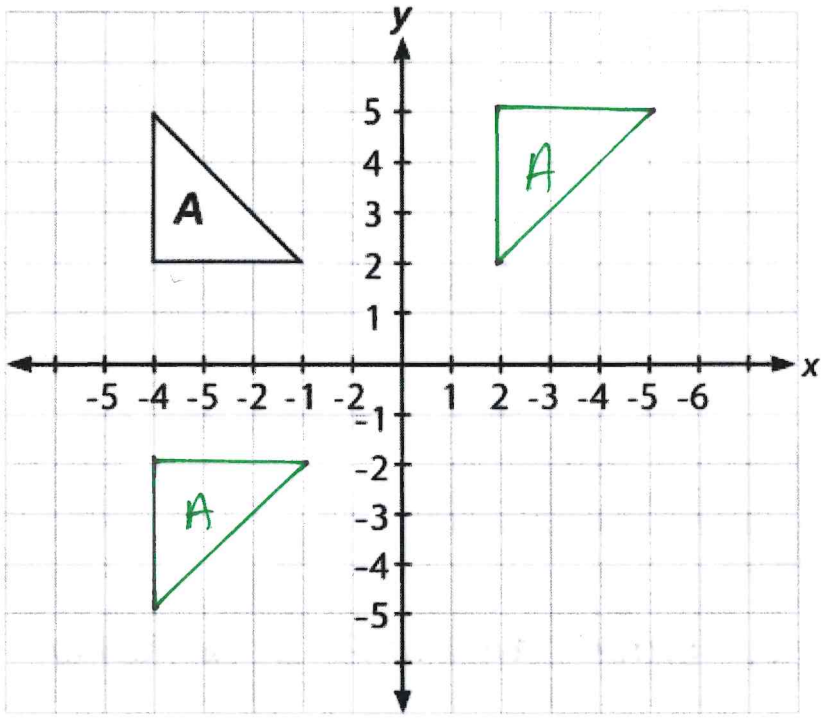
6 The shape **A** is shown on the grid below.



(a) Rotate shape **A 90° clockwise** about the **origin**. Draw the rotated shape on the grid.

(2)

(b) Reflect shape **A** in the **x-axis**. Draw the reflected shape on the grid.

(2)

(Total for Question 6 is 4 marks)

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7 **Reuben** thinks of a number.
He **multiplies his number by 4** and then **adds 9**.
His final answer is **61**.
What number did Reuben think of?

$4x + 9 = 61$
$-9 \quad -9$
$\div 4 \left(\begin{matrix} 4x = 52 \\ x = 13 \end{matrix} \right) \div 4$

13

(3)

(Total for Question 7 is 3 marks)

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8 Here are the ingredients needed to make **15 cookies**:

Ingredient	**Amount for 15 cookies**
Butter	180 g
Sugar	75 g
Flour	260 g

Liezl has:

- 550 g of butter
- 310 g of sugar
- 900 g of flour

Work out the **greatest number of cookies Liezl can make**.
You must show all your working.

$\frac{550}{180} \simeq 3.05$ ∴ Butter can make 3 batches

$\frac{310}{75} \simeq 4.13$ ∴ Sugar can make 4 batches.

$\frac{900}{260} \simeq 3.46$ ∴ Flour can make 3 batches

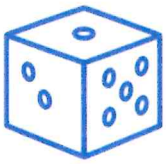
Butter and Flour = 3 batches

$3 \times 15 = 45$.

45 Cookies

(3)

(Total for Question 8 is 3 marks)



9 Here is a list of numbers:

7 5 2 8 5 1 6

(a) Work out the **median.**

1 2 5 5 6 7 8

5

(2)

(b) **Pat** picks **one number at random** from the list.
What is the probability that she picks an **even number**?

Even numbers are 2, 6 and 8
Total numbers = 7

$\frac{3}{7}$

(1)

(Total for Question 9 is 3 marks)

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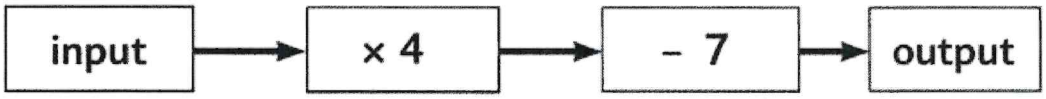
10 Here is a number machine.



(a) Work out the **output** when the **input** is **9**.

$9 \times 4 = 36$
$36 - 7 = 29$

29

(1)

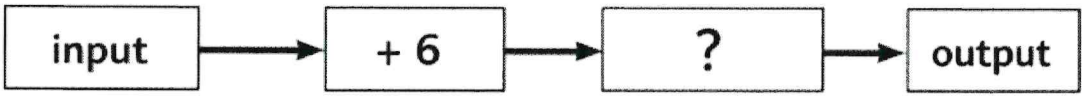
(b) Work out the **input** when the **output** is **61**.

$4x = 68$ (÷4)
$x = 17$ (÷4)

17

(2)

Here is a different number machine.



When the input is **5**, the output is **44**.

(c) Complete the number machine by finding the missing operation

$5 + 6 = 11$

$11 \times 4 = 44$

× 4

(1)

(Total for Question 10 is 4 marks)

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11 There are **90 calories in 100 g of apple**.

There are **120 calories in 100 g of cereal**.

Chantelle has **80 g of apple** and **125 g of cereal** for breakfast.
Work out the **total number of calories** in Chantelle's breakfast.

$90 \times \frac{80}{100} = 72$ ∴ Apple = 72 calories

$120 \times \frac{125}{100} = 150$ ∴ Cereal = 150 calories

$72 + 150 = 222$.

222 calories

(4)

(Total for Question 11 is 4 marks)

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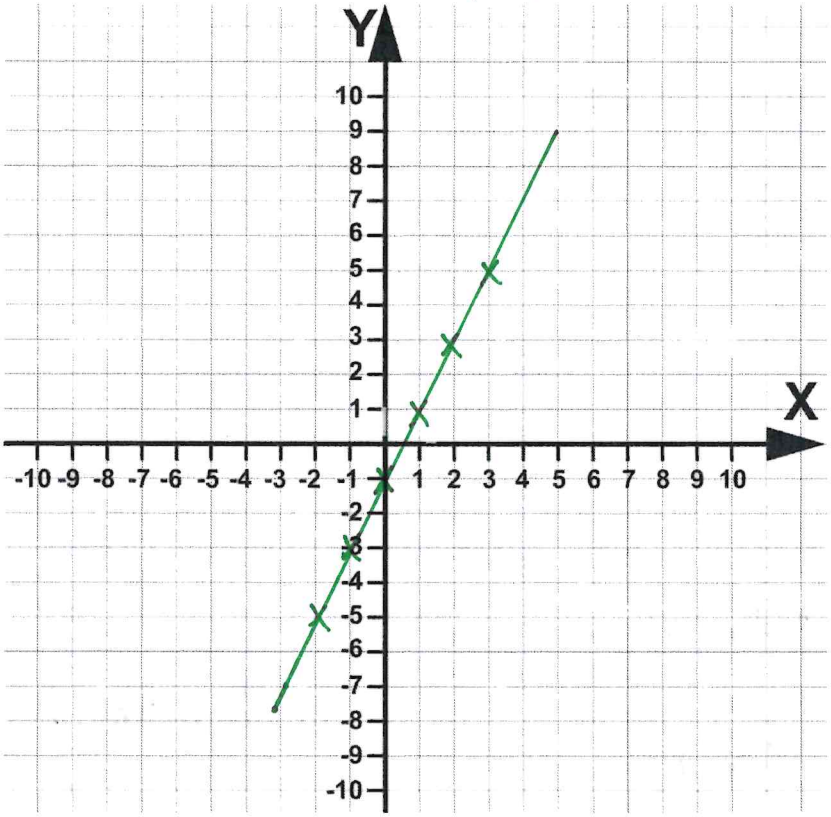
12 On the grid below, draw the graph of $y = 2x - 1$ for values of x from -2 to 3.

x	-2	-1	0	1	2	3
y	-5	-3	-1	1	3	5



(3)

(Total for Question 12 is 3 marks)

13 A store sells juice in **500 ml bottles** and **1.25 litre bottles**.

One day, the store has two special offers:

- **3 × 500 ml bottles for £4.80**
- **2 × 1.25 litre bottles for £10.50**

Which offer gives the **cheaper price per litre**?
You must show all your working.

3 x 500ml = €4.80
2 x 1.25L = €10.50

500ml = 0.5L
3 x 0.5 = 1.5L

1.25L each
2 x 1.25L = 2.5L

$\frac{4.80}{1.5} = 3.20$ (offer A)

$\frac{10.50}{2.5} = 4.20$ (offer B)

3x 500ml bottles.

(4)

(Total for Question 13 is 4 marks)

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14 **Alex** invests **£3,200** in a savings account for **4 years**.

The account pays **simple interest** at a rate of **2.5% per year**.

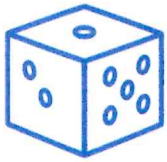
Work out the **total amount of interest** Alex earns by the end of the 4 years.

3200 x 0.025 x 4
3200 x 0.025 = 80
80 x 4 = 320.

€320

(3)

(Total for Question 14 is 3 marks)



15 **Ella** and **Jake** have a total of **300 stickers**.
The ratio of the number of **Ella's stickers** to the number of **Jake's stickers** is **4:6**.

Ella buys some stickers from Jake.
The ratio of the number of **Ella's stickers** to the number of **Jake's stickers** is now **5:7**.

How many stickers does Ella **buy** from Jake?
You must show all your working.

$4+6=10$ Total = 300

$\frac{300}{10} = 30$

Ella - $4 \times 30 = 120$
Jake - $6 \times 30 = 180$ +
300

Ella - $120 + x$
Jake - $180 - x$

Ratio = 5 : 7

$\frac{120+x}{180-x} = \frac{5}{7}$

$7(120+x) = 5(180-x)$

$840 + 7x = 900 - 5x$

$12x = 60$
$x = 5$

5 stickers

(4)

(Total for Question 15 is 4 marks)

TOTAL FOR PAPER IS 40 MARKS