Rewarding Learning

Centre Number

Candidate Number

General Certificate of Secondary Education
November 2025

Mathematics

StemUp Model Solution

Unit M6 Paper 2
(With calculator)
Foundation Tier



[GMC62]

GMC62

THURSDAY 20 NOVEMBER, 10.45am–11.45am

TIME

1 hour.

INSTRUCTIONS TO CANDIDATES

Write your Centre Number and Candidate Number in the spaces provided at the top of this page.
You must answer the questions in the spaces provided.
Do not write outside the boxed area on each page, on blank pages or tracing paper.
Complete in black ink only. **Do not write with a gel pen.**
Questions which require drawing or sketching should be completed using an HB pencil.
All working **must** be clearly shown in the spaces provided. Marks may be awarded for partially correct solutions.
You **may** use a calculator for this paper.
Answer **all eighteen** questions.

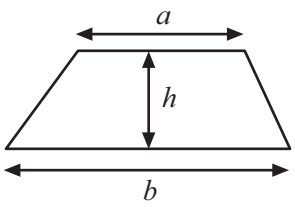
INFORMATION FOR CANDIDATES

The total mark for this paper is 50.
Figures in brackets printed down the right-hand side of pages indicate the marks awarded to each question or part question.
You should have a calculator, ruler, compasses and a protractor.
The Formula Sheet is on page 2.

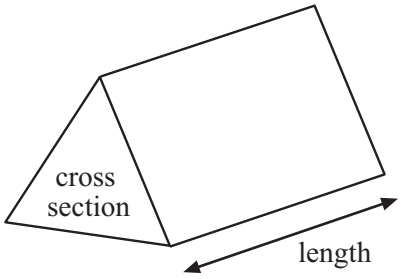
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Formula Sheet

Area of trapezium $= \frac{1}{2}(a + b)h$



Volume of prism = area of cross section × length



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1 1 gallon is 4.5 litres.

How many gallons are in 27 litres?

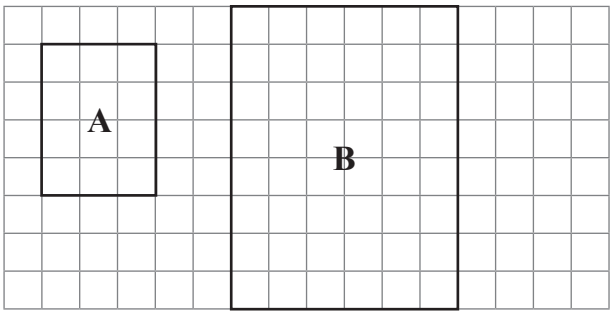
$27 \div 4.5 = 6$

Answer 6 gallons [2]

[Turn over

2 **(a)** Rectangle **B** is an enlargement of Rectangle **A**.

What is the scale factor of the enlargement?

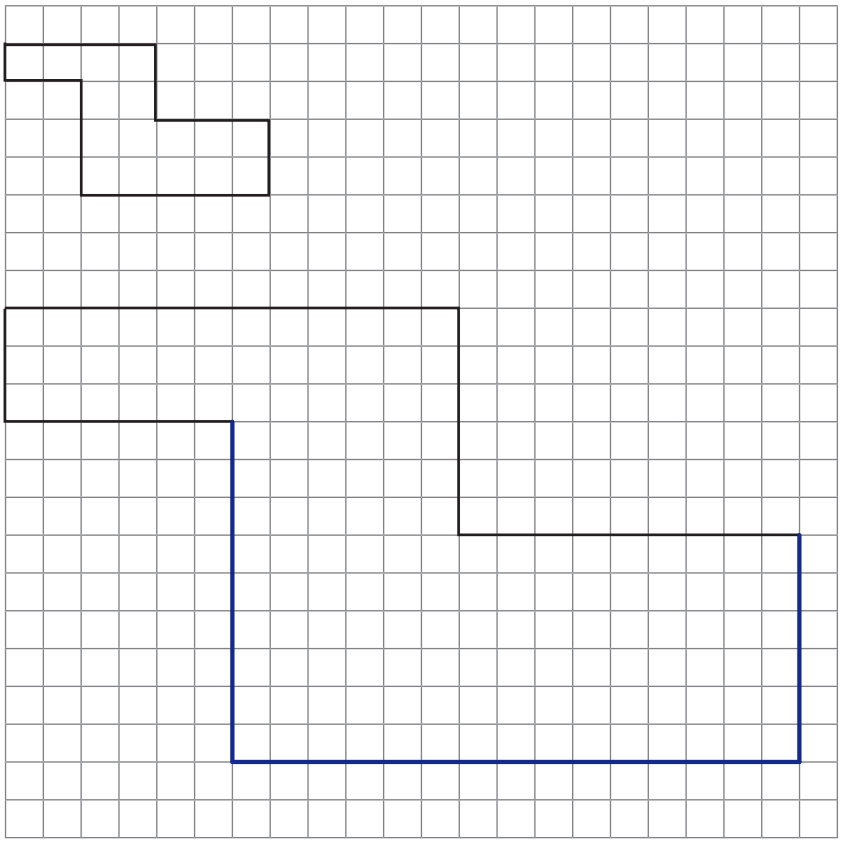


B is 6 by 8, A is 3 by 4, 6 ÷ 3 = 2

Answer 2 [1]

(b) John has started enlarging the shape below using a scale factor of 3

Finish off the enlargement.



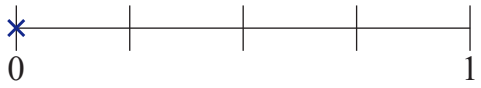
[1]

3 Kylie has 12 coloured pencils.

She has 1 red, 2 blue and 9 yellow pencils.

(a) Mark on the probability scale, with an ×, the probability that Kylie chooses a green pencil at random.

0/12 = 0



[1]

(b) Mark on the probability scale, with an ×, the probability that Kylie chooses a yellow pencil at random.

9/12 = 3/4



[1]

(c) Which statement below is not true?

A: A probability near 0 indicates an impossible event.

B: A probability of $\frac{1}{2}$ indicates an even chance.

C: A probability of 1 indicates a certain event.

D: A probability of $\frac{1}{4}$ indicates an unlikely event.

Answer Statement A [1]

[Turn over

4 A youth club offers members the activities shown below.

Session 1	Session 2
Gaming	Basketball
Archery	Swimming
Rounders	Darts
Orienteering	

Members choose

one activity from Session 1 and

one activity from Session 2

One of the possible choices is Gaming and Basketball, which can be recorded as **GB**.

List all of the possible choices that can be made.

GB, GS, GD,

AB, AS, AD,

RB, RS, RD,

OB, OS, OD

[2]

5 Kelly says that the sum of the numbers 5, 6, 7, 8, 9 and 10 is more than 11% of 400

Is Kelly correct?

Show your working out clearly.

$5 + 6 + 7 + 8 + 9 + 10 = 45$

$11\% \text{ of } 400 = 0.11 \times 400 = 44$

$45 > 44$, so the sum is more than 11% of 400

Answer Yes [3]

[Turn over

6 Find the difference between $\frac{3}{4}$ of 48 and $\frac{2}{3}$ of 144

Show your working out clearly.

$\frac{3}{4} \times 48 = 36$

$\frac{2}{3} \times 144 = 96$

$96 - 36 = 60$

Answer 60 [3]

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7



Buy 1 Cupcake for 75p	Special Offer Buy 3 Cupcakes for £2.10

Carla is buying cupcakes.

Show that **the greatest** number of cupcakes she can buy with £10 is 14

Show your working out clearly.

£10 = 1000p

1000 ÷ 210 = 4.76... so 4 offers

4 × 3 = 12 cupcakes, 4 × 210 = 840p

1000 − 840 = 160p left over

160 ÷ 75 = 2.13... so 2 more cupcakes (150p)

12 + 2 = 14 cupcakes

Greatest number = 14

[3]

[Turn over

8 Here are two exchange rates:

£1 = 1.33 U.S. dollars

£1 = 1.85 Canadian dollars

How many **more** Canadian dollars than U.S. dollars can be bought with £500?

1.85 × 500 = 925 Canadian dollars

1.33 × 500 = 665 U.S. dollars

925 − 665 = 260

Answer 260 Canadian dollars [3]

9 Pam is making stew.

1 kg of potatoes makes enough stew for 3 people.

She plans to feed 15 people.

Potatoes cost 65p per lb.

Work out the cost of the potatoes for the stew.

15 ÷ 3 = 5 kg of potatoes

1 kg = 2.2 lb, 5 × 2.2 = 11 lb

11 × 65p = 715p = £7.15

Answer £ 7.15 [3]

[Turn over

10 Pete has 2 bags of sweets.

In the first bag there are 10 sweets of which 4 are toffee.

In the second bag 6 sweets are toffee.

The probability of taking a toffee sweet from each bag is the same.

How many sweets are there in the second bag?

First bag: $\frac{4}{10} = \frac{2}{5}$

$\frac{2}{5} = \frac{6}{15}$ $(\times 3)$

Second bag has 15 sweets

Answer 15 [3]

11 A sofa costs £1680

Abbie and Barry share the cost in the ratio 3 : 5

How much less does Abbie pay than Barry?

3 + 5 = 8 parts

1680 ÷ 8 = 210

Abbie: 3 × 210 = £630

Barry: 5 × 210 = £1050

1050 − 630 = £420

Answer £ 420 [3]

[Turn over

12

$$1, \quad \frac{8}{5}, \quad \frac{11}{5}, \quad \frac{14}{5}, \quad \frac{17}{5}, \quad \ldots$$

Olivia says that the next term in the sequence must be 4

Explain why Olivia is correct.

The terms go up by $\frac{3}{5}$ *each time*

$\frac{17}{5} + \frac{3}{5} = \frac{20}{5} = 4$

so the next term is 4

[2]

13 A rectangle has length $3x$

The rectangle is enlarged by scale factor 4

Write down the new length.

Answer *12x* [1]

14 A spinner has the colours red, blue, pink, yellow and green.

The table shows the probability of the spinner landing on some of the colours.

Colour	red	blue	pink	yellow	green
Probability	0.16	0.08	0.13	0.4	0.23

The probability of landing on red is twice the probability of landing on blue.

(a) Complete the table for red and pink. [3]

Red = 2 × 0.08 = 0.16

Pink = 1 − (0.16 + 0.08 + 0.4 + 0.23) = 1 − 0.87 = 0.13

(b) The spinner is spun 400 times.

How many **more** times do you expect it to land on yellow than green?

Yellow: 0.4 × 400 = 160

Green: 0.23 × 400 = 92

160 − 92 = 68

Answer 68 [3]

[Turn over

15 Two regular pentagons are placed together.

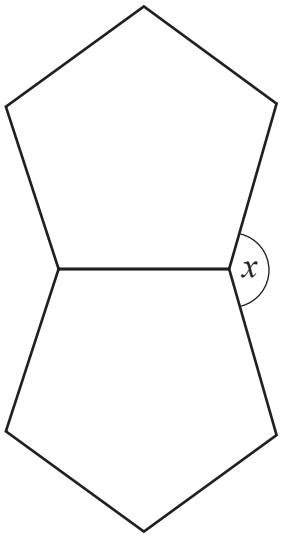


diagram not drawn accurately

Work out the size of angle x.

Sum of interior angles = 3 × 180 = 540°

Each interior angle = 540 ÷ 5 = 108°

Angles at a point add to 360°

x = 360 − (108 + 108) = 144°

Answer 144 ° [4]

16 Simplify

(a) $(m^3)^4$

Answer m^{12} [1]

(b) $\frac{e^{15}}{e^3}$

Answer e^{12} [1]

17 Solve $4x - 1 < 2$

$4x - 1 < 2$

$4x < 3$

$x < \frac{3}{4}$

Answer $x < \frac{3}{4}$ [2]

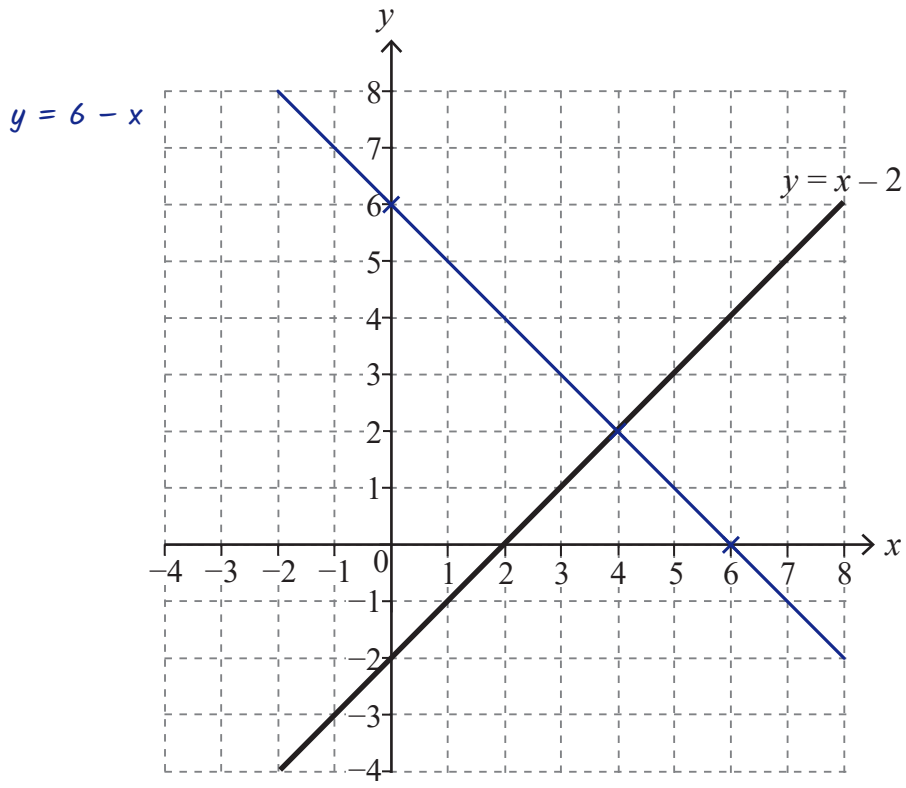
[Turn over

18 Grace is trying to solve the simultaneous equations

$y = x - 2$

$y = 6 - x$

Grace begins by drawing the line $y = x - 2$ as shown.



(a) Draw the other line needed to solve the simultaneous equations. [2]

x	0	4	6
y	6	2	0

(b) Write down the solution to these simultaneous equations.

$x = 4$, $y = 2$ (where the lines cross)

Answer $x =$ 4 $y =$ 2 [1]

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