

Write your name here

Surname

Other Names

Mathematics

June 2018 Paper 2 (Calculator Allowed)

Part 2 (Second half of the paper)

Edexcel Foundation Tier

Time: 45 minutes

Q	Topic	Max Mark	My Marks
17	Direct Proportion Recipe Questions	3	
18	Transformations	2	
19	Circumference of a Circle	5	
20	Indices	5	
21	Prime Factors, HCF and LCM	3	
22	The Equation of a Line	3	
23	Percentage Increase, Money Problems	5	
24	Quadratic Graphs	6	
25	Compound Measures, Percentage Decrease	3	
26	Pythagoras' Theorem, Volume	5	
	Total	40	

For worked solutions and video solutions visit mathsgenie.co.uk

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17 Here is the list of ingredients for making 30 biscuits.

Ingredients for 30 biscuits 225 g butter 110 g caster sugar 275 g plain flour 75 g chocolate chips
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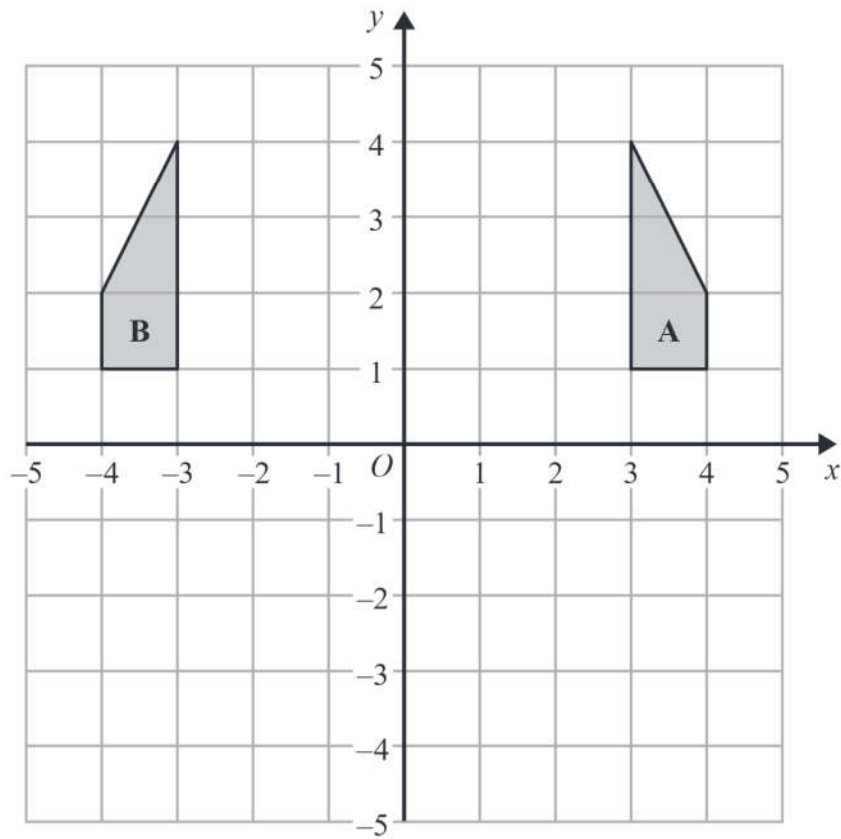
Lucas has the following ingredients.

- 900 g butter
- 1000 g caster sugar
- 1000 g plain flour
- 225 g chocolate chips

What is the greatest number of biscuits Lucas can make?
You must show your working.

(Total for Question 17 is 3 marks)





Describe fully the single transformation that maps shape **A** onto shape **B**.

(Total for Question 18 is 2 marks)

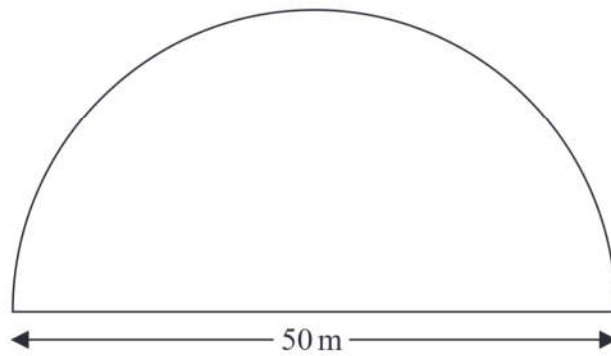


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19 A farmer has a field in the shape of a semicircle of diameter 50 m.



The farmer asks Jim to build a fence around the edge of the field.
Jim tells him how much it will cost.

Total cost = £29.86 per metre of fence plus £180 for each day's work

Jim takes three days to build the fence.

Work out the total cost.

£.....

(Total for Question 19 is 5 marks)



20 (a) Simplify $m^3 \times m^4$

.....
(1)

(b) Simplify $(5np^3)^3$

.....
(2)

(c) Simplify $\frac{32q^9r^4}{4q^3r}$

.....
(2)

(Total for Question 20 is 5 marks)



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21 (a) Find the lowest common multiple (LCM) of 40 and 56

.....
(2)

$$A = 2^3 \times 3 \times 5 \qquad B = 2^2 \times 3 \times 5^2$$

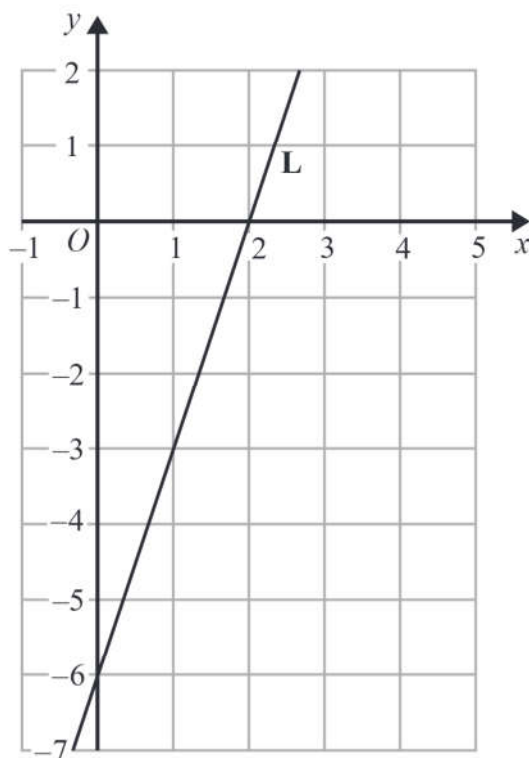
(b) Write down the highest common factor (HCF) of A and B .

.....
(1)

(Total for Question 21 is 3 marks)



22 The line **L** is shown on the grid.



Find an equation for **L**.

(Total for Question 22 is 3 marks)

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23 Raya buys a van for £8500 plus VAT at 20%

Raya pays a deposit for the van.

She then pays the rest of the cost in 12 equal payments of £531.25 each month.

Find the ratio of the deposit Raya pays to the total of the 12 equal payments.

Give your answer in its simplest form.

(Total for Question 23 is 5 marks)



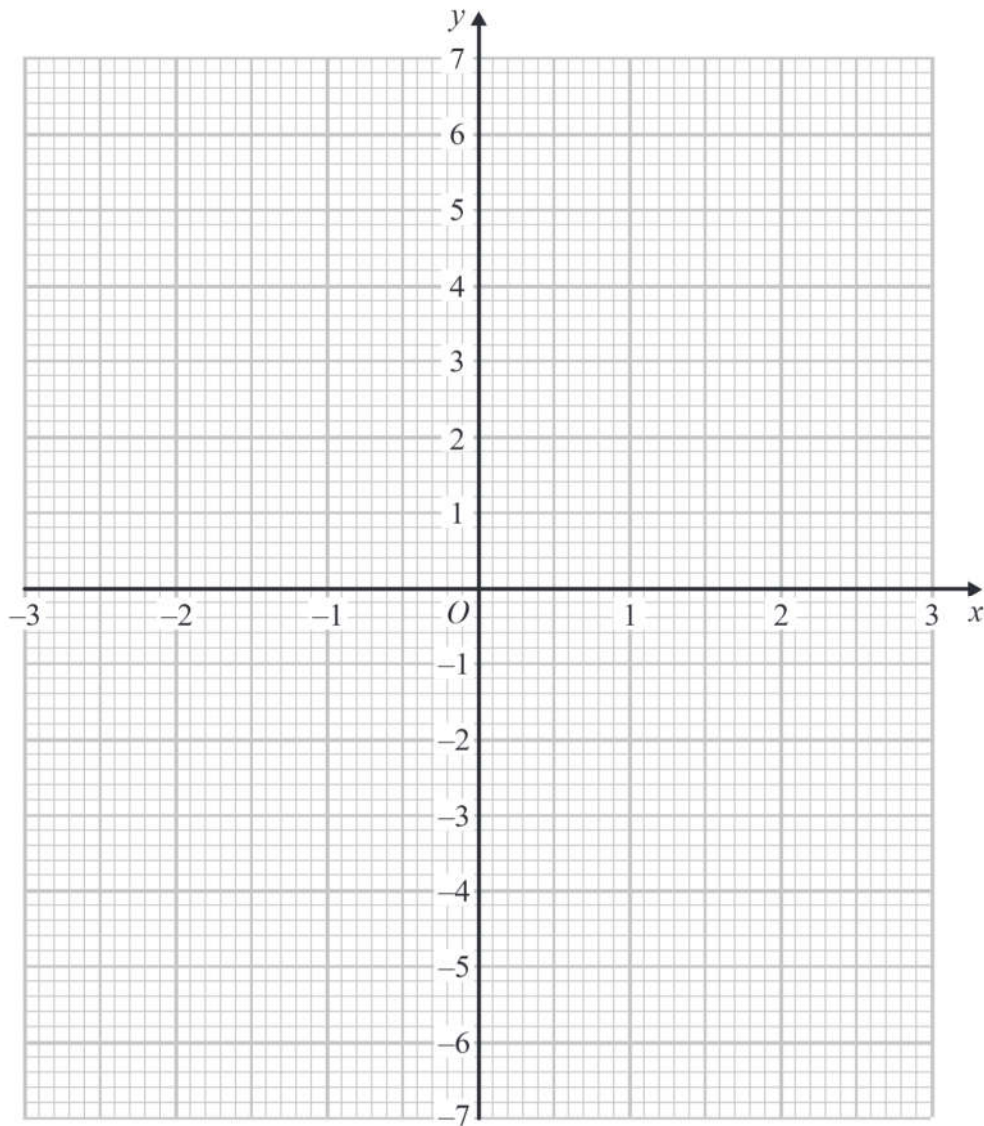
24 (a) Complete the table of values for $y = x^2 - x - 6$

x	-3	-2	-1	0	1	2	3
y	6			-6			

(2)

(b) On the grid, draw the graph of $y = x^2 - x - 6$ for values of x from -3 to 3

(2)



(c) Use your graph to find estimates of the solutions to the equation $x^2 - x - 6 = -2$

(2)

(Total for Question 24 is 6 marks)

25 A force of 70 newtons acts on an area of 20 cm^2

The force is increased by 10 newtons.

The area is increased by 10 cm^2

$$\text{pressure} = \frac{\text{force}}{\text{area}}$$

Helen says,

“The pressure decreases by less than 20%”

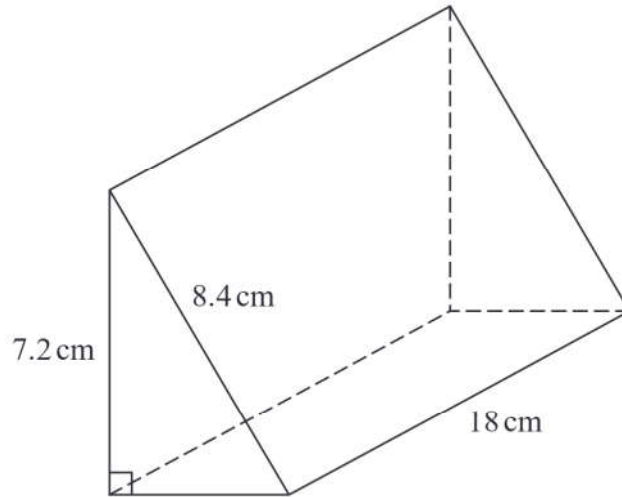
Is Helen correct?

You must show how you get your answer.

(Total for Question 25 is 3 marks)



26 Here is a triangular prism.



Work out the volume of the prism.
Give your answer correct to 3 significant figures.

..... cm³

(Total for Question 26 is 5 marks)

TOTAL FOR PAPER IS 80 MARKS

