Write your name here

Surname	Other Names

Mathematics

June 2018 Paper 1 (Non Calculator)
Part 1 (First half of the paper)
Edexcel Higher Tier

Time: 45 minutes

Q	Topic	Max Mark	My Marks
1	Adding and Dividing Fractions	4	
2	Ratio Problems	3	
3	Percentage Change (Profit)	4	
4	Estimation, Speed	4	
5	Plans and Elevations, Surface Area	6	
6	Coordinates, Translation/Vectors	5	
7	Combination of Transformations	2	
8	Sharing Ratio, Area of a Triangle	4	
9	Fractional and Negative Indices	4	
10	Box Plots	5	
	Total	41	

Answer ALL questions.

Write your answers in the spaces provided.

You must write down all the stages in your working.

1 (a) Work out $2\frac{1}{7} + 1\frac{1}{4}$

....

(2)

(b) Work out $1\frac{1}{5} \div \frac{3}{4}$

Give your answer as a mixed number in its simplest form.

....

(2)

(Total for Question 1 is 4 marks)

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2 In a village

the number of houses and the number of flats are in the ratio 7 : 4
the number of flats and the number of bungalows are in the ratio 8 : 5

There are 50 bungalows in the village.

How many houses are there in the village?

....

(Total for Question 2 is 3 marks)

3 Renee buys 5 kg of sweets to sell.
She pays £10 for the sweets.

Renee puts all the sweets into bags.
She puts 250 g of sweets into each bag.
She sells each bag of sweets for 65p.

Renee sells all the bags of sweets.

Work out her percentage profit.

....%

(Total for Question 3 is 4 marks)

4 A cycle race across America is 3069.25 miles in length.

Juan knows his average speed for his previous races is 15.12 miles per hour.
For the next race across America he will cycle for 8 hours per day.

(a) Estimate how many days Juan will take to complete the race.

....

(3)

Juan trains for the race.
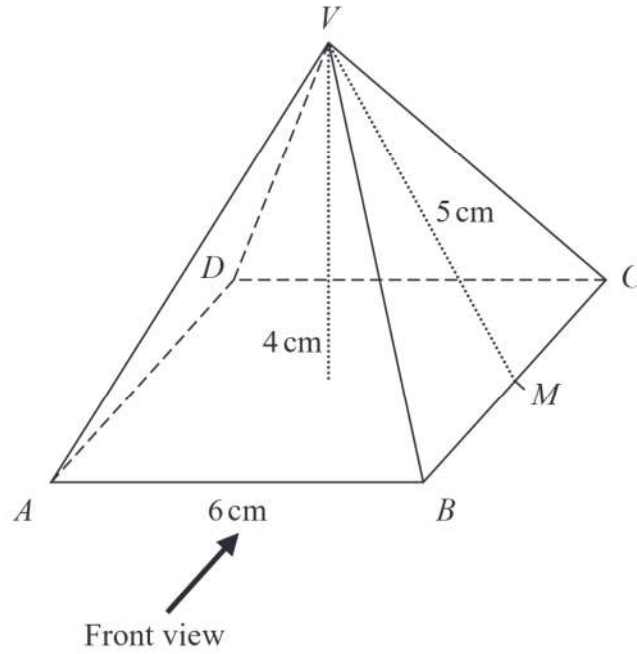The average speed he can cycle at increases.
It is now 16.27 miles per hour.

(b) How does this affect your answer to part (a)?

....

....

(1)

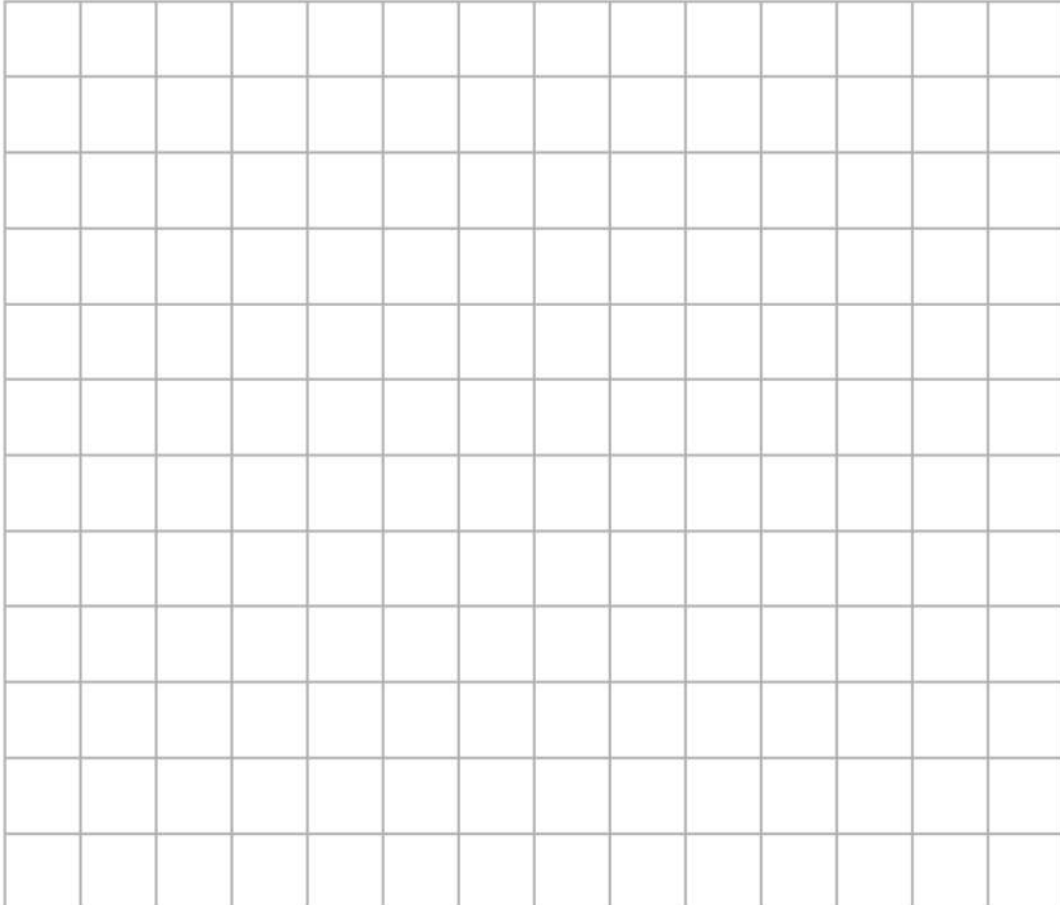**(Total for Question 4 is 4 marks)**

5 Here is a solid square-based pyramid, *VABCD*.

The base of the pyramid is a square of side 6 cm.
The height of the pyramid is 4 cm.
M is the midpoint of *BC* and *VM* = 5 cm.

(a) Draw an accurate front elevation of the pyramid from the direction of the arrow.

(2)

(b) Work out the total surface area of the pyramid.

....

(4)

(Total for Question 5 is 6 marks)

6 A pattern is made from four identical squares.

The sides of the squares are parallel to the axes.
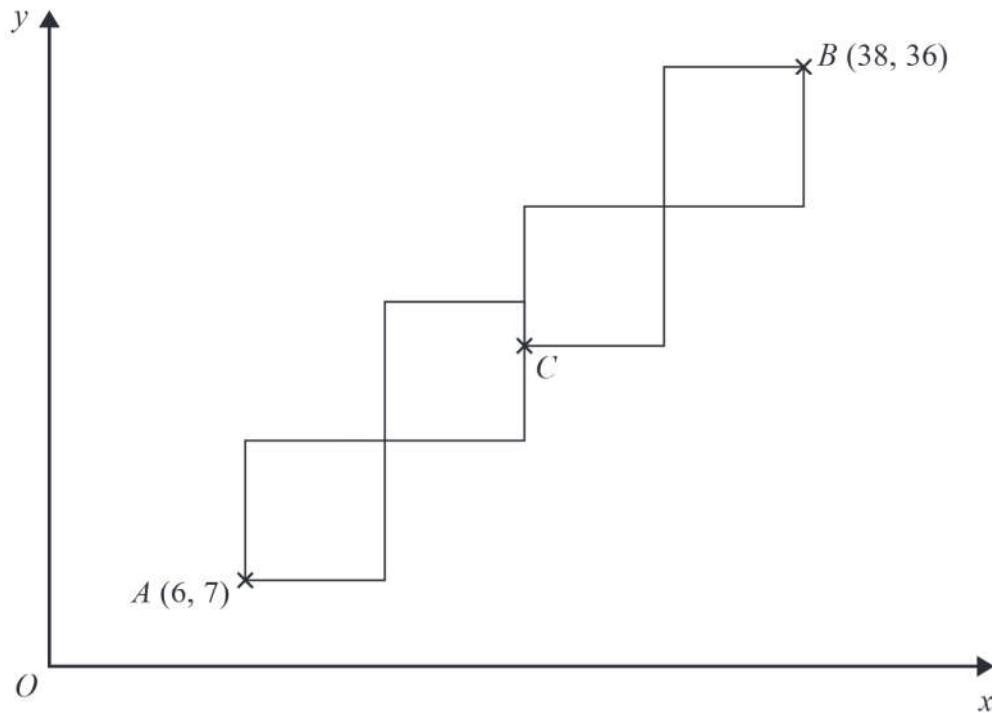
Point *A* has coordinates (6, 7)
Point *B* has coordinates (38, 36)
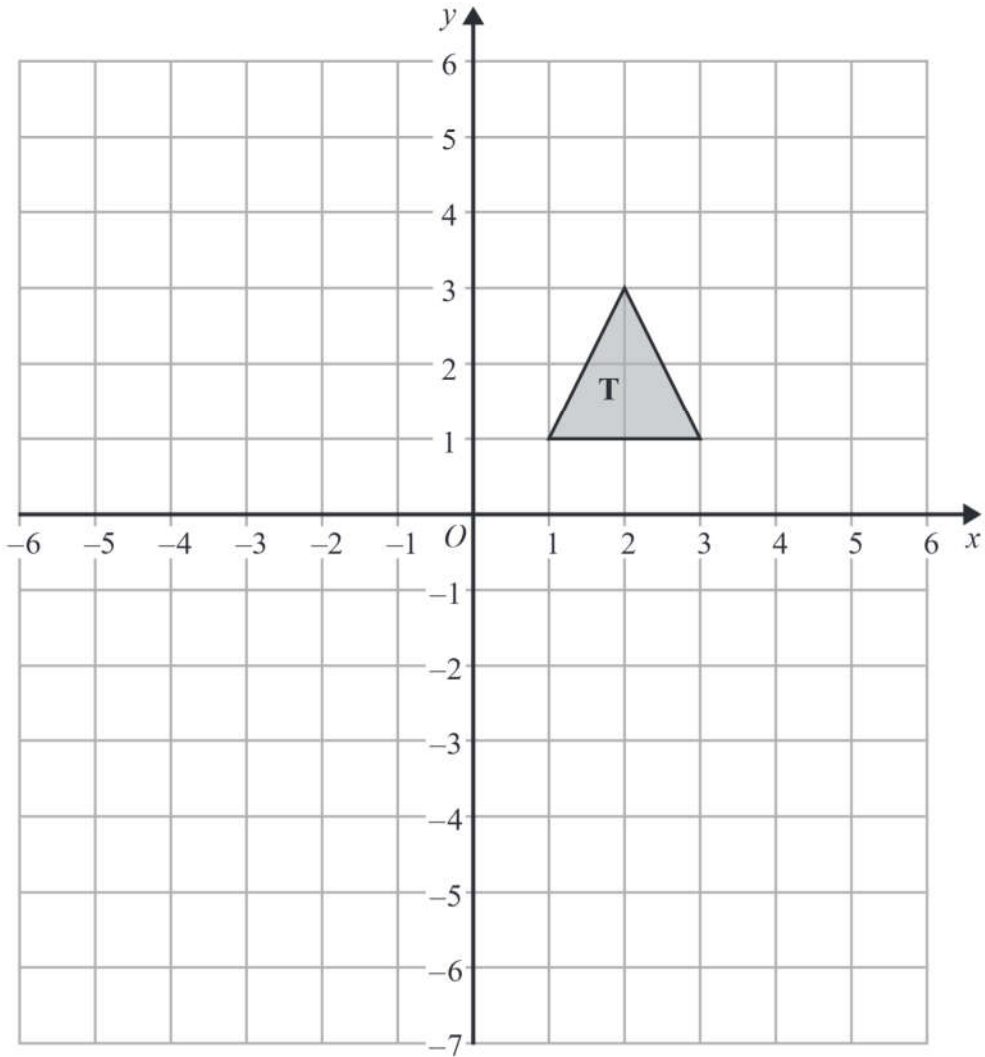Point *C* is marked on the diagram.

Work out the coordinates of *C*.

(............................ , ...)

(Total for Question 6 is 5 marks)

7

Shape **T** is reflected in the line $x = -1$ to give shape **R**.
Shape **R** is reflected in the line $y = -2$ to give shape **S**.

Describe the **single** transformation that will map shape **T** to shape **S**.

....

....

....

(Total for Question 7 is 2 marks)

8 The perimeter of a right-angled triangle is 72 cm.
The lengths of its sides are in the ratio 3 : 4 : 5

Work out the area of the triangle.

....cm^2

(Total for Question 8 is 4 marks)

9 (a) Write down the value of $36^{\frac{1}{2}}$

....

(1)

(b) Write down the value of 23^0

....

(1)

(c) Work out the value of $27^{-\frac{2}{3}}$

....

(2)

(Total for Question 9 is 4 marks)

10 The table gives some information about the heights of 80 girls.

Least height	133 cm
Greatest height	170 cm
Lower quartile	145 cm
Upper quartile	157 cm
Median	151 cm

(a) Draw a box plot to represent this information.
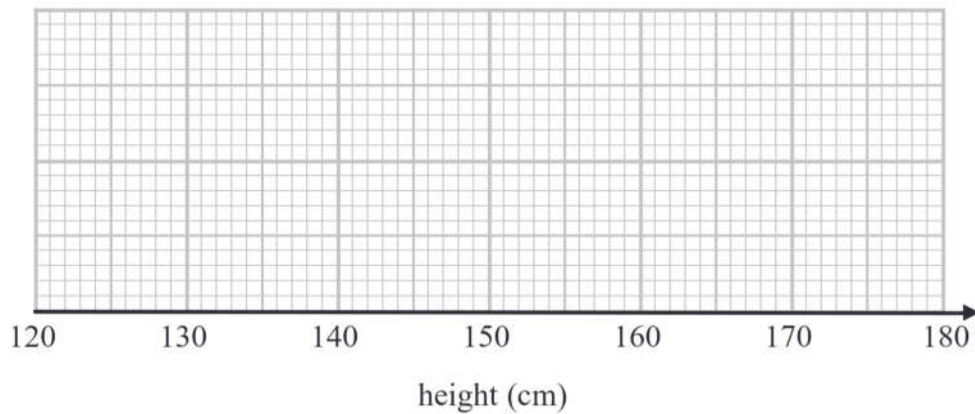
height (cm)

(3)

(b) Work out an estimate for the number of these girls with a height between 133 cm and 157 cm.

(2)

(Total for Question 10 is 5 marks)