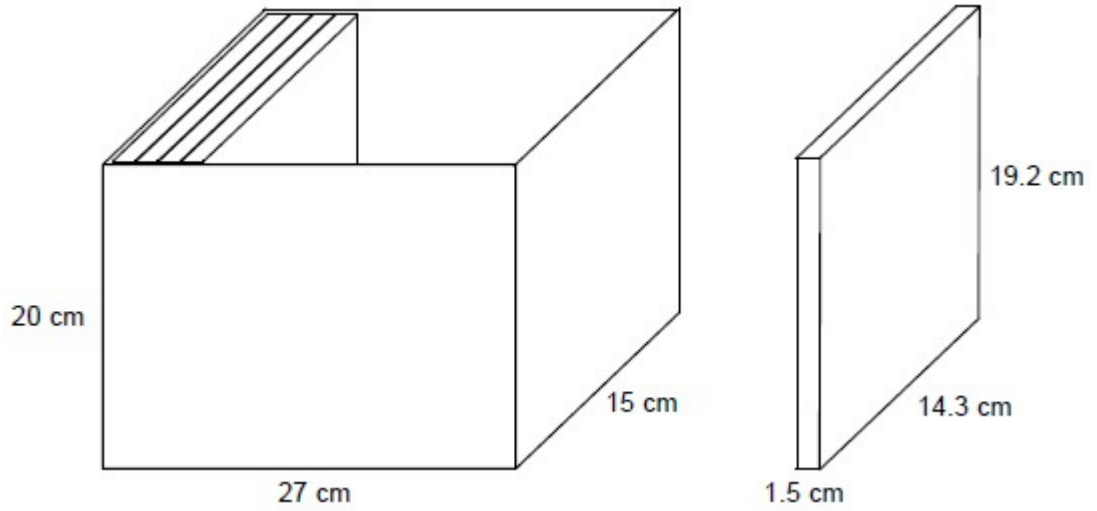


**Q1.**

A box is a cuboid with dimensions 27 cm by 15 cm by 20 cm  
These dimensions are to the nearest **centimetre**.

DVD cases are cuboids with dimensions 1.5 cm by 14.3 cm by 19.2 cm  
These dimensions are to the nearest **millimetre**.



Show that 17 DVD cases, stacked as shown, will definitely fit in the box.

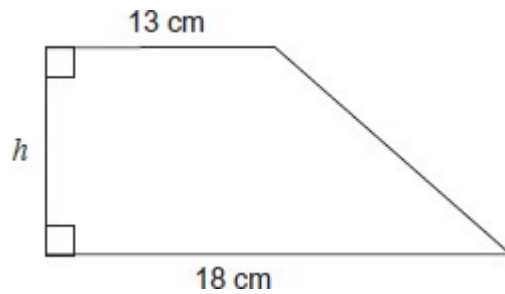
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**(Total 4 marks)**

**Q2.**

The area of this trapezium is  $280 \text{ cm}^2$  to the nearest  $10 \text{ cm}^2$

Not drawn accurately



The lengths  $13 \text{ cm}$  and  $18 \text{ cm}$  are given to the nearest centimetre.

Work out the maximum possible value of the height  $h$ .

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Answer ..... cm

**(Total 4 marks)**

**Q3.**

$x = 400$  to 1 significant figure.

$y = 25$  to 2 significant figures.

Work out the maximum  $\frac{x}{y}$  integer value of

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Answer .....

**(Total 3 marks)**

**Q4.(a)** Garage A sold 4960 vehicles.

The garage takes a sample of customers, stratified by type of vehicle sold.  
Some information about the sample is shown.

	<b>Car</b>	<b>People carrier</b>	<b>Van</b>	<b>Total</b>
<b>Number sold</b>	2520			4960
<b>Number in sample</b>	126	44		

Complete the table.

**(3)**

(b) Garage B sold 3790 vehicles, to 3 significant figures.

Write down the minimum and maximum possible number sold by Garage B.

Minimum .....

Maximum .....

**(2)**

**(Total 5 marks)**

**Q5.**The maximum safe load of a bridge is 1500 kg to the nearest 10 kg.

An average soldier is 75 kg to the nearest kilogram.

Work out an estimate for the maximum number of soldiers that can **safely** cross the bridge at the same time.

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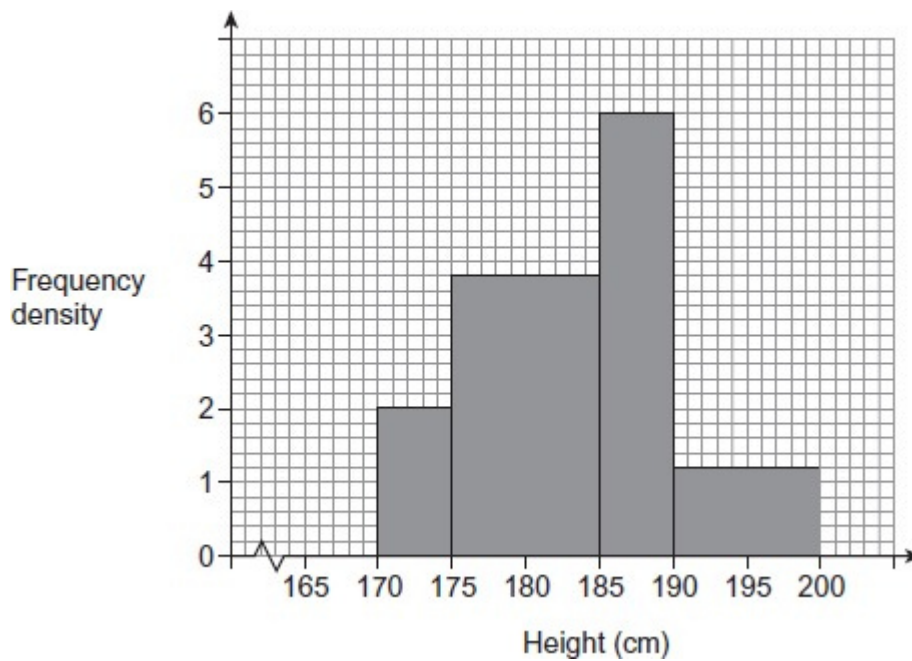
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Answer .....

(Total 5 marks)

**Q6.** The histogram represents the heights of 90 firefighters.



- (a) Which of the four bars represents the greatest number of firefighters?  
You **must** show your working.

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Answer ..... cm  $\leq$  height

(3)

- (b) Calculate an estimate of the mean height.  
You **must** show your working.

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Answer ..... cm

(4)

- (c) The tallest firefighter was 195.6 cm  
The shortest firefighter was 170.4 cm  
Both heights are given to 1 decimal place.  
Work out the maximum possible difference in their heights.

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Answer ..... cm

(2)

(Total 9 marks)

**Q7.** Luke has a rectangular garden.

The length is 40 m

The width is 25 m

Both measurements are given to the nearest metre.

Mira also has a garden.

The area is 970 m<sup>2</sup> to the nearest 10 m<sup>2</sup>

Mira thinks her garden has a bigger area.

Is she correct?

Tick a box.

You **must** show your working.

Correct

Incorrect

Cannot tell

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**(Total 3 marks)**

**Q8.** A shelf supports 80 kg, to the nearest kilogram.

Bottles weigh 1.4 kg each, to the nearest tenth of a kilogram.

Work out the greatest number of bottles that can definitely be supported by the shelf.

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Answer .....

**(Total 4 marks)**

**Q9.**A home gym can take a maximum load of 145 kg of weight plates.  
Each weight plate is 10 kg to the nearest kilogram.

Work out the **greatest** number of weight plates that can be safely loaded on the gym.  
You **must** show your working.

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Answer .....

**(Total 4 marks)**

**Q10.**The manager of a theatre records the attendance figure for a show to 2 significant figures.

A newspaper rounds the manager's figure to 1 significant figure.

<p><b>THEATRE NEWS</b> 500 attend show</p>
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What is the lowest and highest possible actual attendance?

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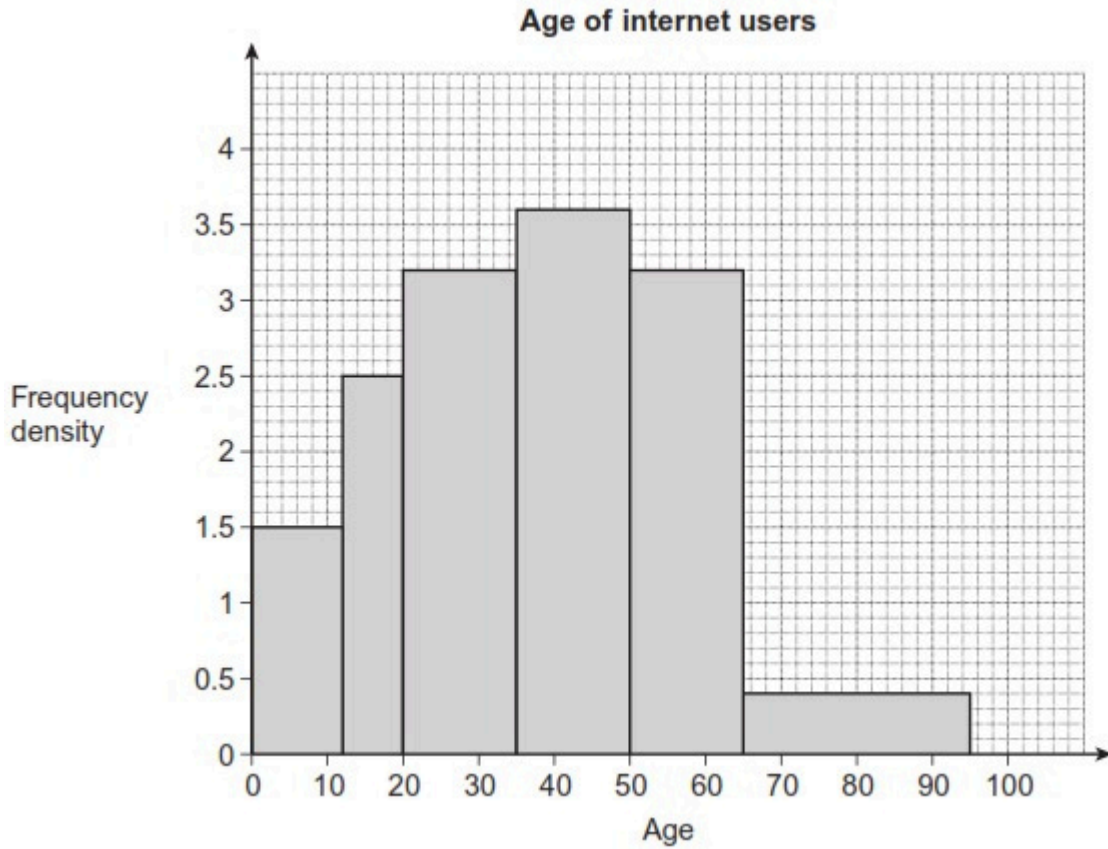
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Lowest .....

Highest .....

(Total 3 marks)

**Q11.**(a) The histogram shows information about 200 internet users.



How many of these internet users are aged under 20?

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Answer .....

(3)

(b) This question is about internet users in the UK.



In the last five years, the number has increased by 82%, correct to two significant figures. There are now 30 million, to the nearest million.

Work out the maximum number of internet users five years ago.

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Answer .....

(4)  
(Total 7 marks)

**Q12.** Amy and Kate each catch three fish.

The weight of each fish, to the nearest tenth of a kilogram, is shown.

<b>Amy</b>	6.8 kg	4.3 kg	5.2 kg
<b>Kate</b>	8.2 kg	3.4 kg	4.5 kg

Kate says that the total weight of her fish is more than the total weight of Amy's fish.

Show that this could be true.

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**(Total 4 marks)**