Mock Grade 4

Maths Booklet 3

Paper 3H
Calculator

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Answer ALL questions.

Write your answers in the spaces provided.

You must write down all the stages in your working.

1 (a) Expand and simplify $(x + 2)(x - 8)$

....

(2)

(b) Factorise fully $24x^2 + 16x$

....

(2)

(Total for Question 1 is 4 marks)

2 (a) Use your calculator to work out $\dfrac{\sqrt{12.36 - 5.12}}{2.97^2}$
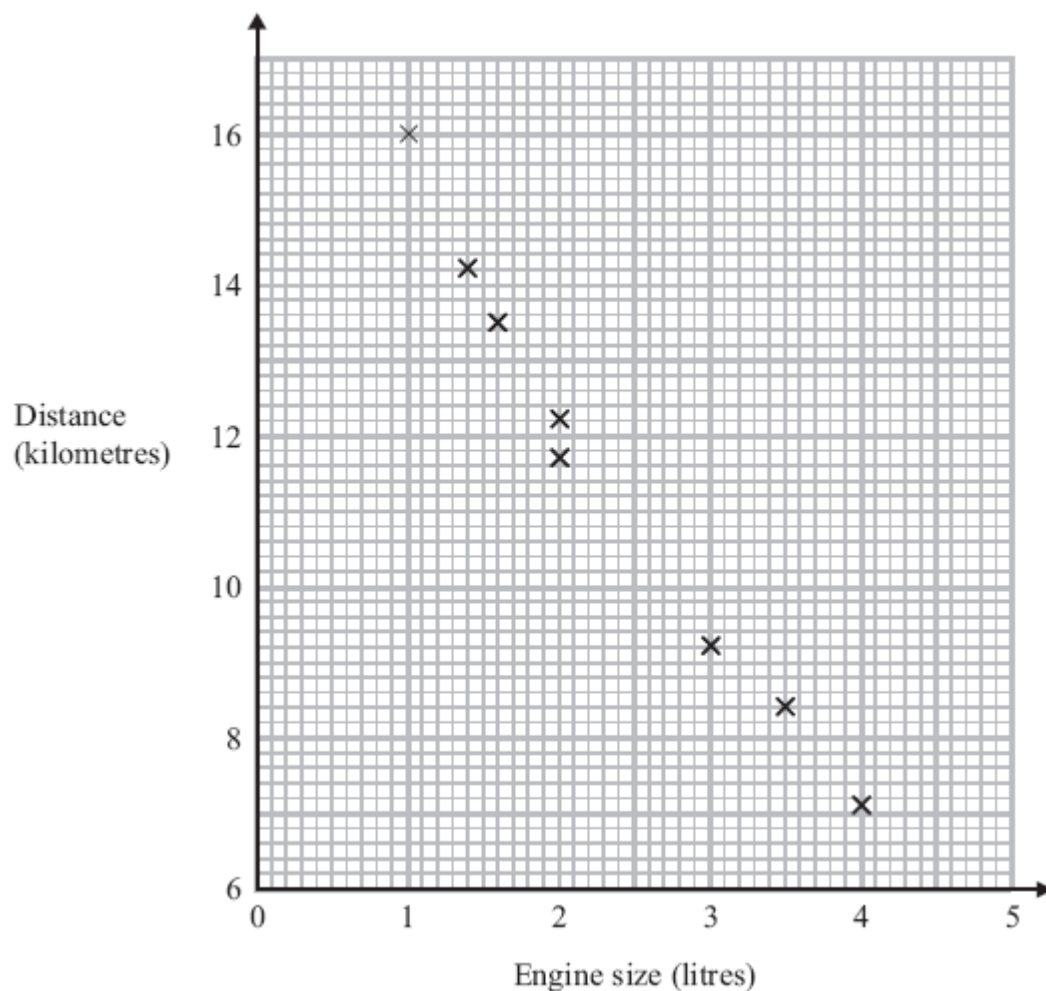
Write down all the figures on your calculator display.

....

(2)

(b) Write your answer to part (a) correct to 4 significant figures.

....

(1)

(Total for Question 2 is 3 marks)

3 The scatter graph shows some information about 8 cars.
For each car it shows the engine size, in litres, and the distance, in kilometres, the car travels on one litre of petrol.

A different car of the same type has an engine size of 2.5 litres..

Using the scatter graph, find an estimate for the distance travelled on one litre of petrol by this car.

....kilometres

(Total for Question 3 is 2 marks)

4 The table gives information about the times taken, in minutes, for 40 students to get to school.

Time taken (*m* minutes)	Frequency
$0 < m \leq 10$	3
$10 < m \leq 20$	8
$20 < m \leq 30$	11
$30 < m \leq 40$	9
$40 < m \leq 50$	9

Work out an estimate for the mean time.

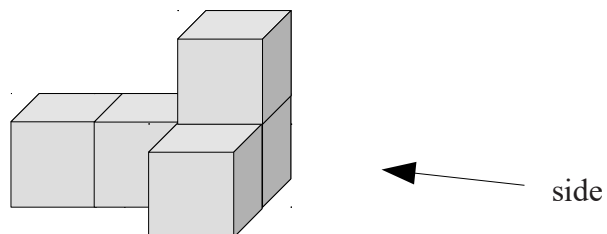...minutes

(Total for Question 4 is 3 marks)

5 The ratio of the number of boys to the number of girls in a school is $6:13$
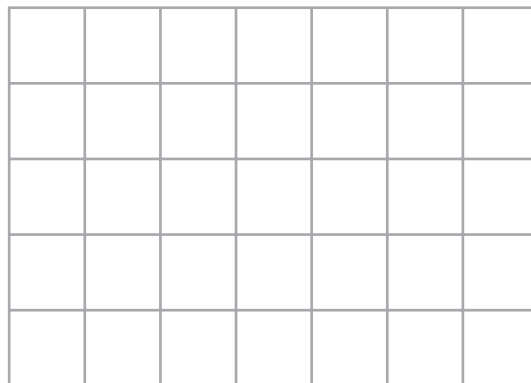There are 182 girls in the school.

Work out the total number of students in the school.

....

(Total for Question 5 is 3 marks)

6 The diagram represents a solid made from five centimetre cubes.

side

On the centimetre grid below, draw the side elevation of the solid.

(Total for Question 6 is 2 marks)

7 Make x the subject of the formula $\qquad y = \dfrac{2}{5}x - 12$

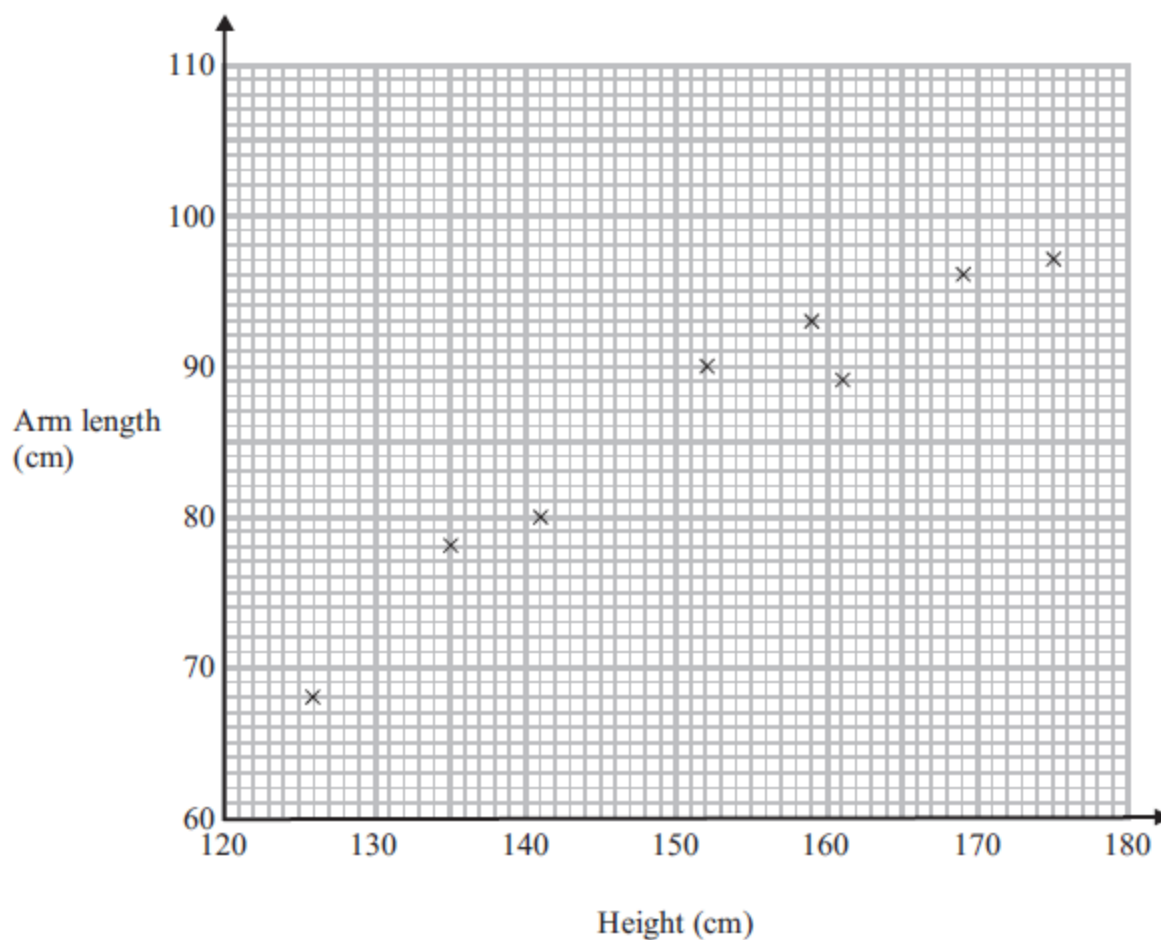...

(Total for Question 7 is 2 marks)

8 Jim rounds a number, x, to two decimal places.
The result is 6.13

Write down the error interval for x.

....

(Total for Question 8 is 2 marks)

9 The scatter graph shows information about the height and the arm length of each of 8 students in year 11.

Height (cm)

(a) Describe the type of correlation the scatter graph shows?

....

(1)

A different student in Year 11 has a height of 148 cm.

(b) Estimate the arm length of this student.

(2)

(Total for Question 9 is 3 marks)