Mock Grade 5

Maths Booklet 3

Paper 1H
Non-Calculator

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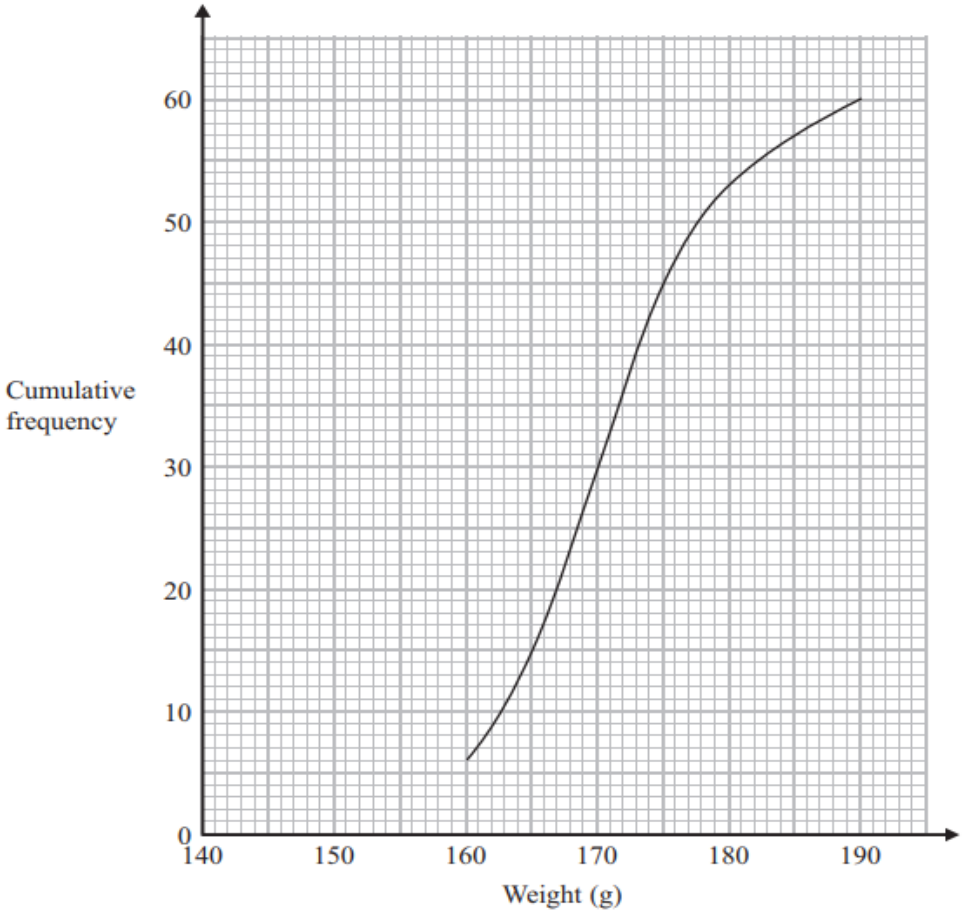
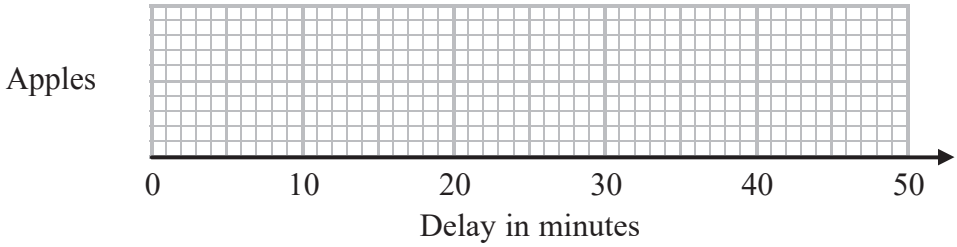
1 The cumulative frequency graph shows the weight, in grams, of 60 apples...



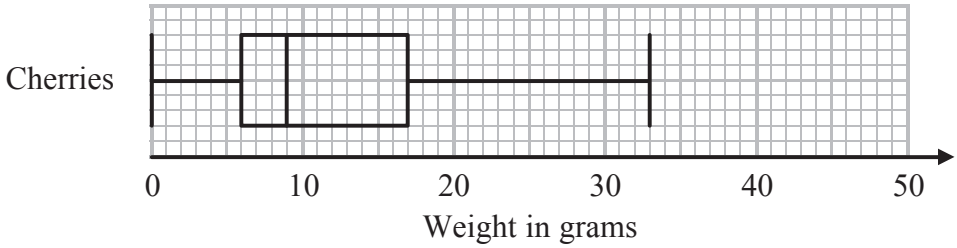
The minimum weight was 163 g.
The maximum weight was 188 g.

(a) On the grid below, draw a box plot to show the distribution of the weights of the apples.



(3)

48 cherries were picked.
The box plot below gives information about the weight of the cherries.



(b) Compare the distribution of the weight of the apples with the weight of the cherries.

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.....

(2)

Mary says,

"The maximum weight of the cherries was 33 grams.
This means that there must be some cherries that weight between 25 grams and 30 grams."

(c) Is Mary right?
You must give a reason for your answer.

.....

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(1)

(Total for Question 1 is 6 marks)

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2 (a) Simplify $\dfrac{x+4}{x^2-16}$

.....

(1)

(b) Factorise fully $2b^2 - 162$

.....

(2)

(Total for Question 2 is 3 marks)

3 The table shows information about the maximum temperature every day in September.

Temperature (°C)	Frequency
$14 < t \leqslant 18$	4
$18 < t \leqslant 20$	10
$20 < t \leqslant 22$	8
$22 < t \leqslant 24$	5
$24 < t \leqslant 28$	3

(a) Work out an estimate for the mean maximum temperature.

£.....

(3)

Nadiya says,

"The mean may **not** be the best average to use to represent this information."

(b) Do you agree with Nadiya?
You must justify your answer.

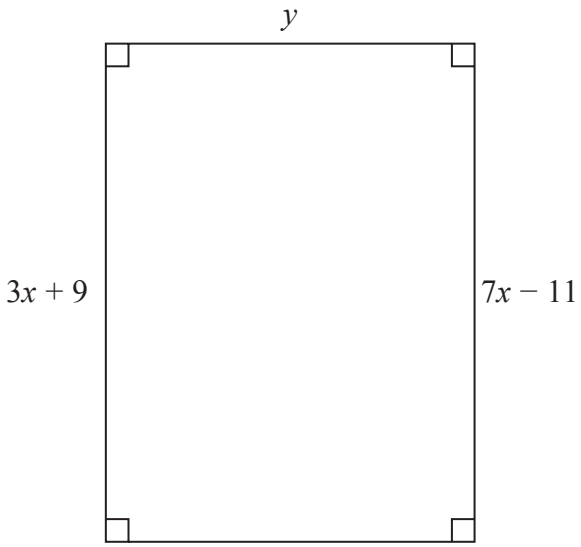
.....

.....

(1)

(Total for Question 3 is 4 marks)

4 Here is a rectangle.



All measurements are in centimetres.

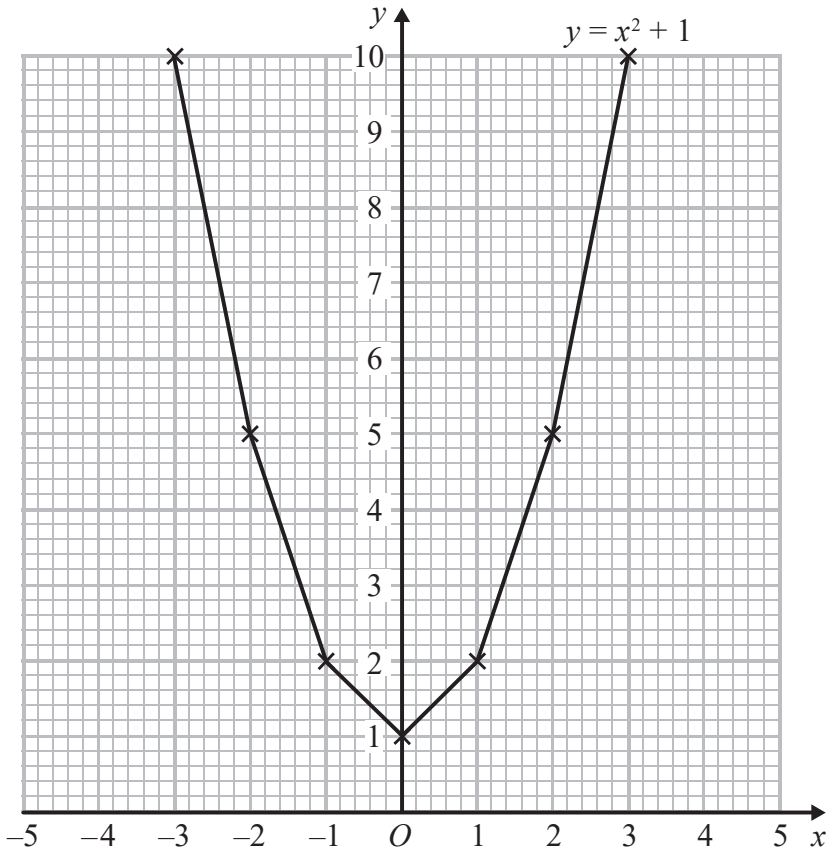
The area of the rectangle is 72 cm^2.

Show that $y = 3$

(Total for Question 4 is 4 marks)

5 Brogan needs to draw the graph of $y = x^2 + 1$

Here is her graph.



Write down one thing that is wrong with Brogan's graph.

.....

.....

(Total for Question 5 is 1 mark)

6 Write these numbers in order of size.
Start with the smallest number.

$$75\% \qquad \frac{7}{10} \qquad 0.72 \qquad 0.9 \qquad \frac{4}{5}$$

.....

(Total for Question 6 is 2 marks)

7 James and Peter cycled along the same 80 km route.

James took 2 hours and 45 minutes to cycle the 80 km.

Peter started to cycle 5 minutes after James started to cycle. Peter caught up with James when they had both cycled 15 km.

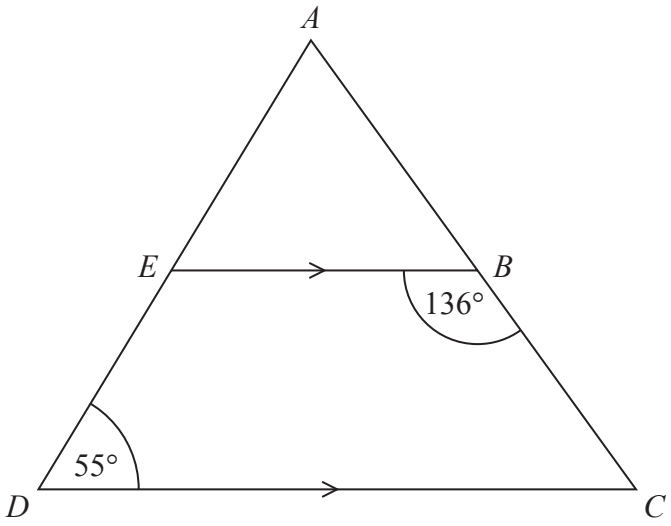
James and Peter both cycled at constant speeds.

Work out Peter's speed.

..... km/h

(Total for Question 7 is 5 marks)

8 *ADC* is a triangle.



AED and *ABC* are straight lines.
EB is parallel to *DC*.

Angle *EBC* = 136°
Angle *ADC* = 55°

Work out the size of angle *EAB*.
You must give a reason for each stage of your working.

(Total for Question 8 is 5 marks)