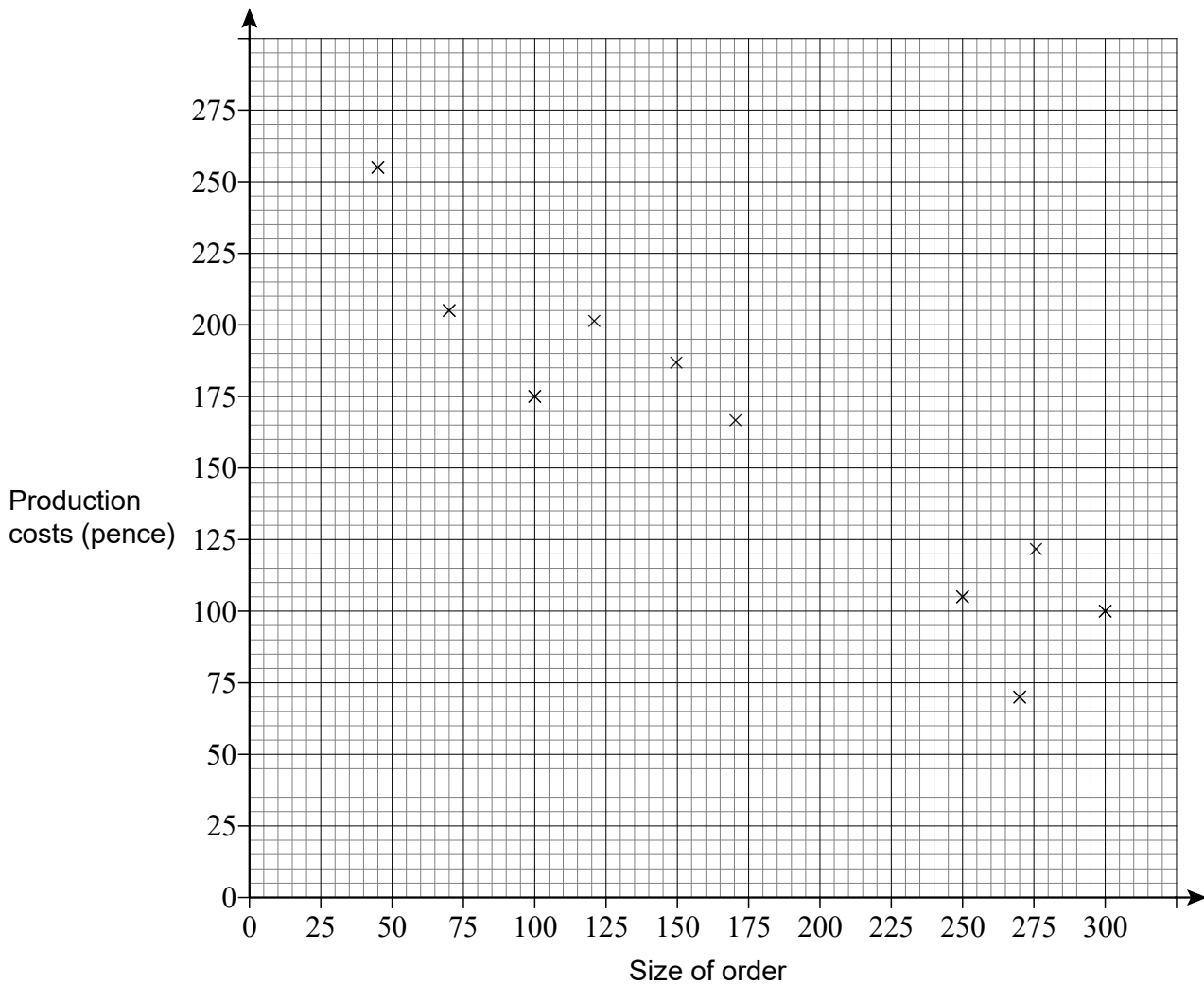# Topic Test 1 (20 minutes)
Statistics recap and review - Higher

1   A company produces custom T-shirts.
The cost of producing each shirt depends on the design and size of order.
The scatter graph shows information about production costs for 10 orders.

1 (a) The company charges

£8 per T-shirt for orders of less than 100
£7 per T-shirt for orders of 101 to 200
£6 per T-shirt for orders over 201

How much profit did they make on the order for 45 T-shirts?

[2 marks]

Answer £ _____

1 (b) An order is received for 200 T-shirts.

Work out an estimate of the production costs.

[1 mark]

Answer _____ pence

1 (c) An order for 600 T-shirts is received.

Can the scatter graph be used to estimate the production cost?
Give a reason for your answer.

[1 mark]

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2 The pie-chart, which is drawn accurately, represents the number of Year 11 students absent from school for one week.
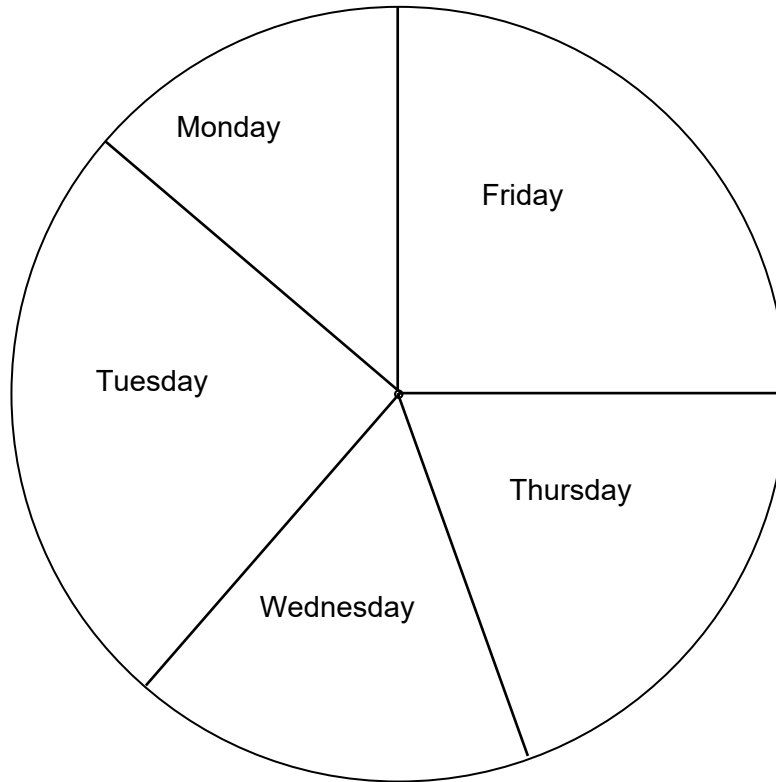
There were 10 students absent on Monday.

Draw a suitable diagram to show the information numerically.

[2 marks]

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3 The table shows the number of units of gas used for 6 months.
The data for March is missing.

Month	Units of gas used
January	208
February	367
March	
April	156
May	132
June	98

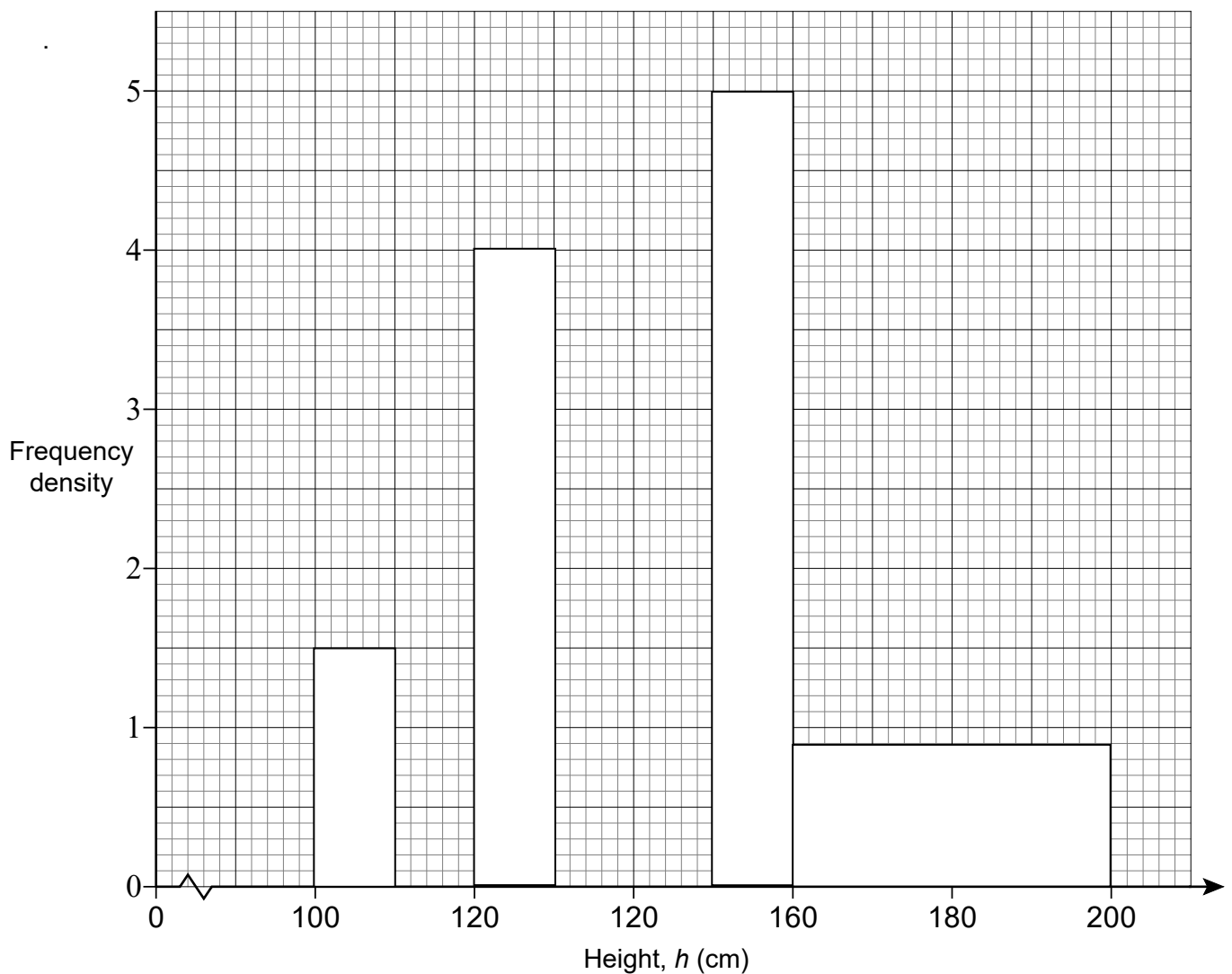The average number of units used over the 6 months is 210 units per month.

Work out the number of units used in March.

[2 marks]

Answer _____ units

4   The table and the histogram shows some information about the heights of 275 sunflowers.

Height, h (grams)	Frequency
$100 < h \leq 110$	15
$110 < h \leq 120$	30
$120 < h \leq 130$	
$130 < h \leq 150$	
$150 < h \leq 160$	50
$160 < h \leq 200$	35
Total	260

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4 (a) Complete the histogram and the table.

[4 marks]

_____

_____

_____

_____

4 (b) Show that an estimate of the median is 140

[2 marks]

_____

_____

_____

_____

4 (c) What assumption have you made in making your estimate in part (b)

[1 mark]

_____

_____

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5 The cumulative frequency graph shows the cholesterol level of 50 meat-eaters.
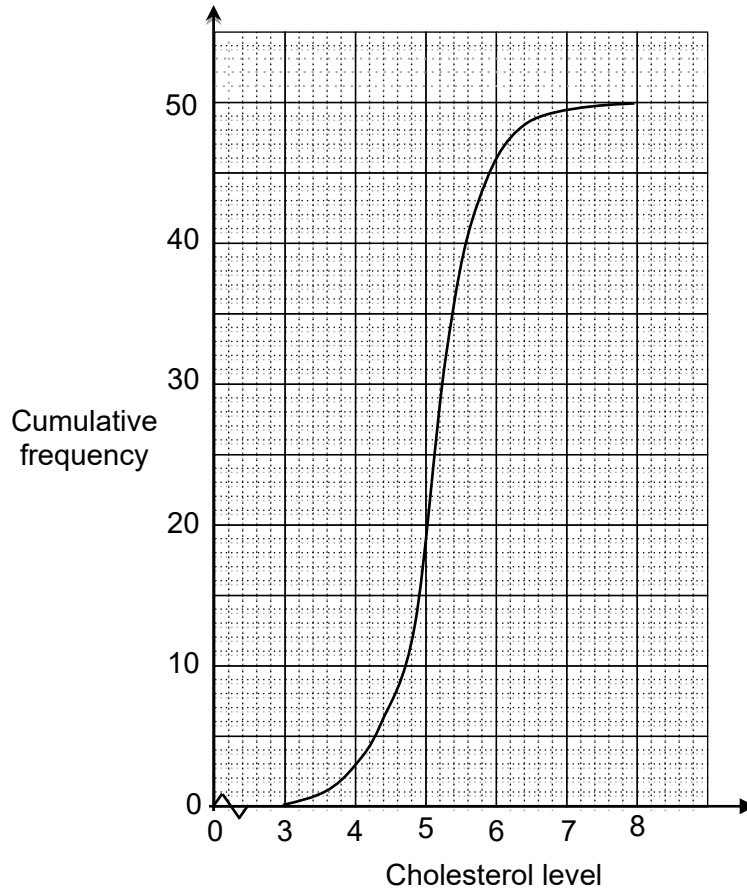
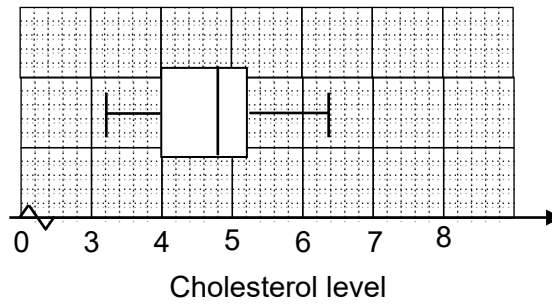**5 (a)** A cholesterol level of over 5.5 is considered to be high.

Work out an estimate of the percentage of the population that have a high cholesterol level.

[2 marks]

Answer _____ %

5 (b) Explain the likely effect of any assumptions have you made in making the estimate in part (a).

[1 mark]

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5 (c) 50 vegetarians also had their cholesterol level tested.

The box plot shows the results.

Cholesterol level

Compare the cholesterol levels of the meat eaters and the vegetarians.

[2 marks]

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