Frequency polygons

Grade 4 | Foundation and Higher | 10 questions, 28 marks

GCSE Maths topic practice

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Name: _____ **Date:** _____ **Score:** _____ **/ 28**

1 The table shows the number of minutes, t, that 40 pupils spent on homework one evening.

Time (t minutes)	Frequency
$0 < t \leq 20$	6
$20 < t \leq 40$	15
$40 < t \leq 60$	12
$60 < t \leq 80$	7

Write down the midpoint of each class.

(2 marks)

Answer _____

2 The table shows the lengths, l cm, of 32 runner beans.

Length (l cm)	Frequency
$10 < l \leq 15$	3
$15 < l \leq 20$	9
$20 < l \leq 25$	12
$25 < l \leq 30$	8

Jamal is going to draw a frequency polygon for this information.

Write down the coordinates of the four points he should plot.

(2 marks)

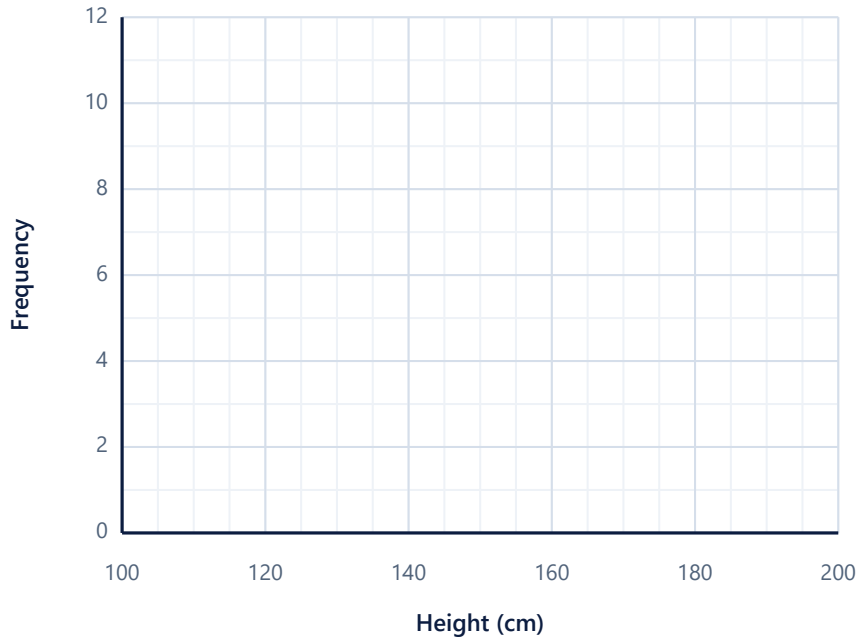
Answer _____

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3 The table shows the heights, h cm, of 30 sunflowers.

Height (h cm)	Frequency
$100 < h \leq 120$	4
$120 < h \leq 140$	7
$140 < h \leq 160$	11
$160 < h \leq 180$	6
$180 < h \leq 200$	2

On the grid, draw a frequency polygon for this information.



(2 marks)

Answer _____

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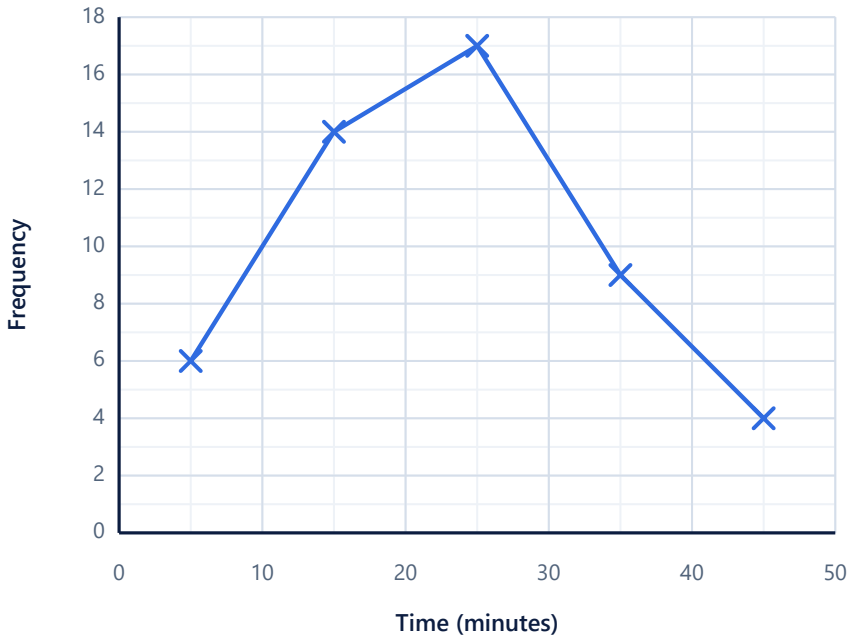
4 The frequency polygon shows information about the times, t minutes, that some customers spent in a café.

The classes are $0 < t \leq 10$, $10 < t \leq 20$, $20 < t \leq 30$, $30 < t \leq 40$ and $40 < t \leq 50$.

a. How many customers spent between 20 and 30 minutes in the café?

b. How many customers are shown altogether?

c. Write down the modal class.



(3 marks)

Answer _____

5 The table shows the test marks, m, of 28 pupils.

Mark (m)	Frequency
$0 < m \leq 10$	3
$10 < m \leq 20$	8
$20 < m \leq 30$	12
$30 < m \leq 40$	5

Kai draws a frequency polygon. He plots the points (10, 3), (20, 8), (30, 12) and (40, 5). He joins them with straight lines, then joins (40, 5) back to (10, 3).

Write down two mistakes Kai has made.

(2 marks)

Answer _____

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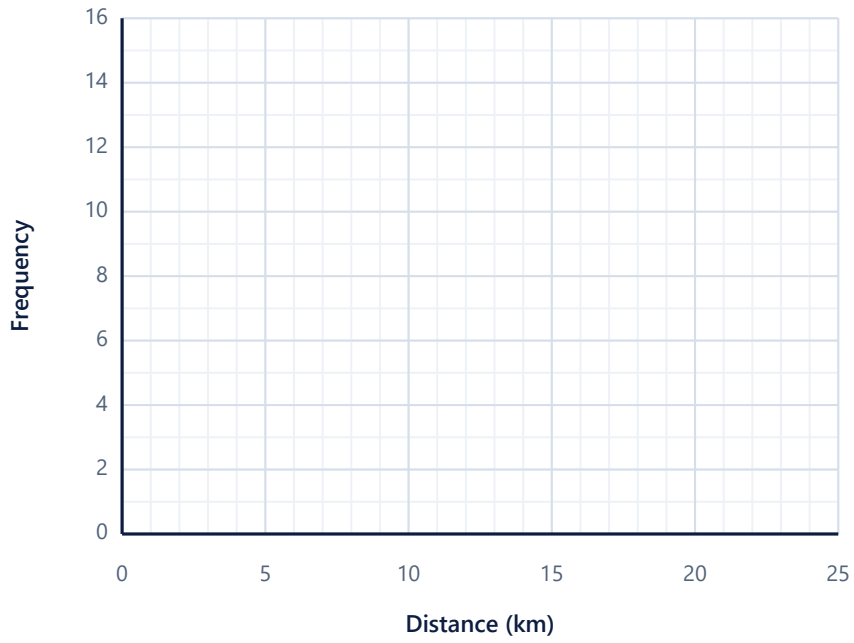
6 The table shows the distances, d km, that 40 people travel to work.

Distance (d km)	Frequency
$0 < d \leq 5$	4
$5 < d \leq 10$	14
$10 < d \leq 15$	13
$15 < d \leq 20$	6
$20 < d \leq 25$	3

a. On the grid, draw a frequency polygon for this information.

b. Write down the modal class.

c. Write down the class that contains the median.



(4 marks)

Answer _____

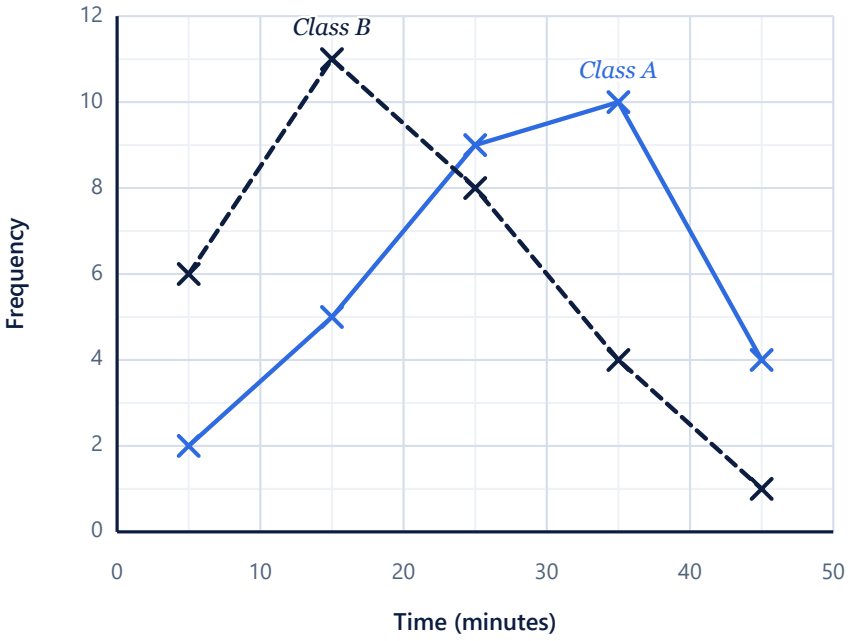
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7 The frequency polygons show the times, t minutes, that 30 pupils in Class A and 30 pupils in Class B spent on homework one night.

The classes are $0 < t \leq 10$, $10 < t \leq 20$, $20 < t \leq 30$, $30 < t \leq 40$ and $40 < t \leq 50$.

a. How many pupils in Class B spent more than 30 minutes on homework?

b. Which class generally spent longer on homework? Give a reason for your answer.



(3 marks)

Answer _____

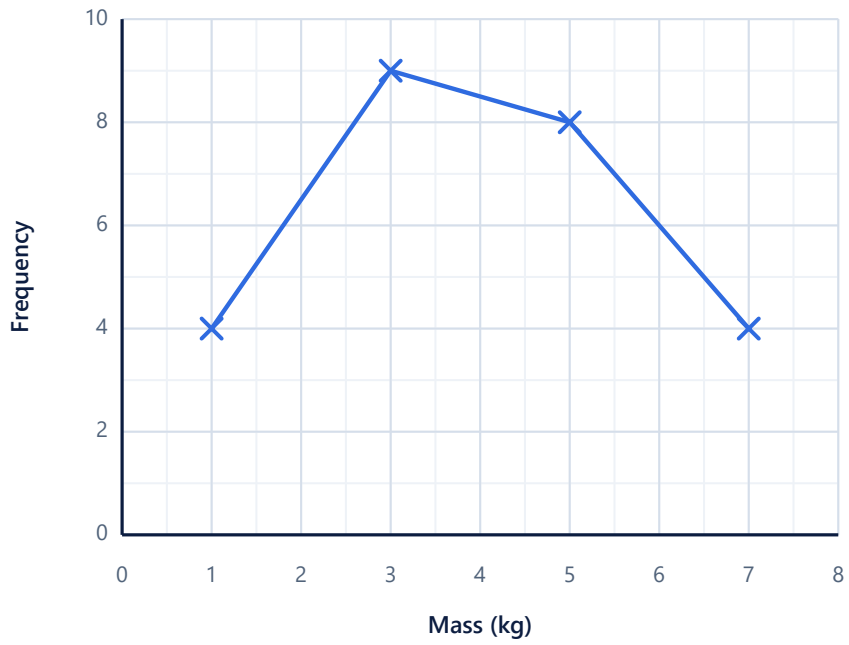
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8 The frequency polygon shows information about the masses, m kg, of some parcels.

The classes are $0 < m \leq 2$, $2 < m \leq 4$, $4 < m \leq 6$ and $6 < m \leq 8$.

a. How many parcels are there?

b. Work out an estimate for the mean mass of a parcel.



(4 marks)

Answer _____

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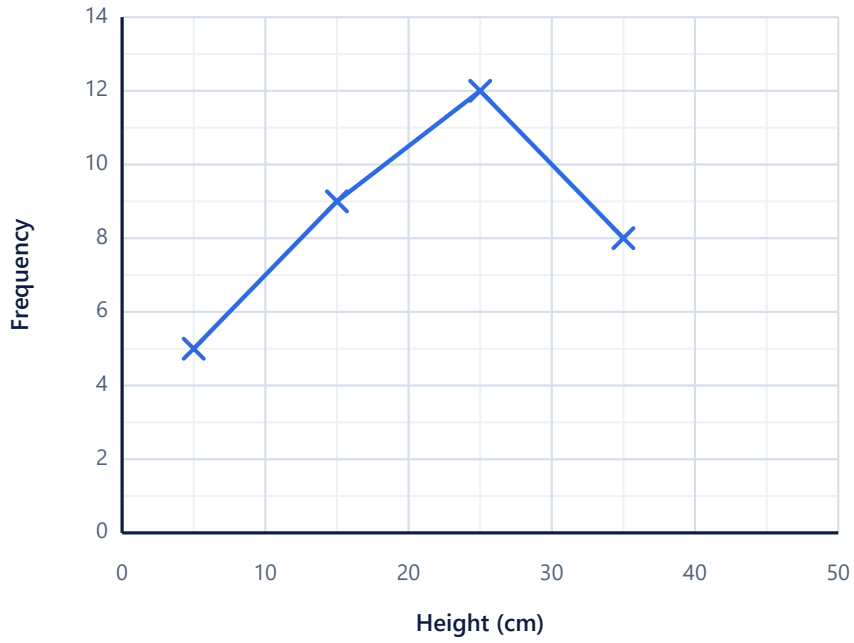
9 Some students measured the heights, h cm, of 40 plants.

The classes are $0 < h \leq 10$, $10 < h \leq 20$, $20 < h \leq 30$, $30 < h \leq 40$ and $40 < h \leq 50$.

The frequency polygon on the grid is not finished: the point for the class $40 < h \leq 50$ is missing.

a. Work out the frequency of the class $40 < h \leq 50$

b. Complete the frequency polygon.



(3 marks)

Answer _____

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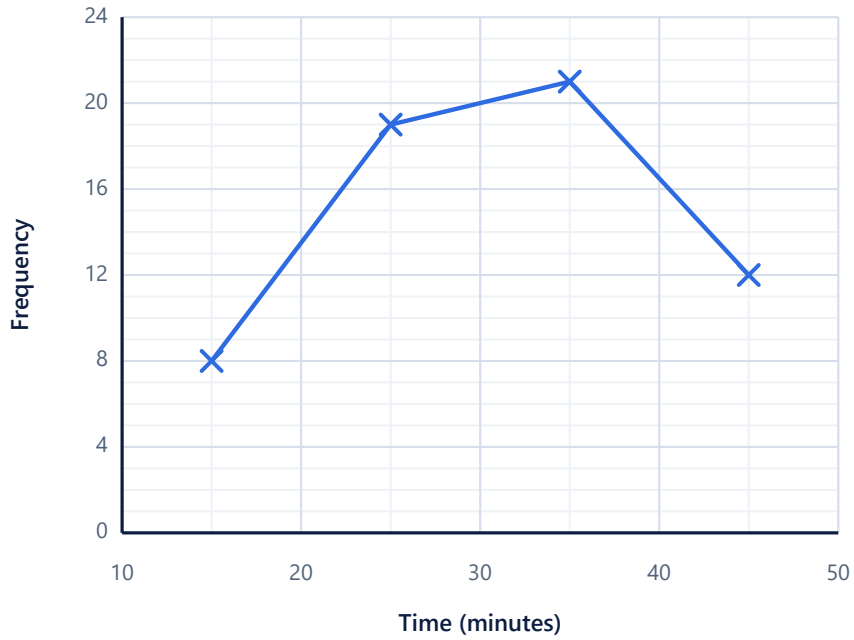
10 The frequency polygon shows the times, t minutes, that 60 runners took to finish a fun run.

The classes are $10 < t \leq 20$, $20 < t \leq 30$, $30 < t \leq 40$ and $40 < t \leq 50$.

Lena says, "More than half of the runners took longer than 30 minutes."

a. How many runners took longer than 30 minutes?

b. Is Lena correct? Give a reason for your answer.



(3 marks)

Answer _____

End of questions | Total 28 marks

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