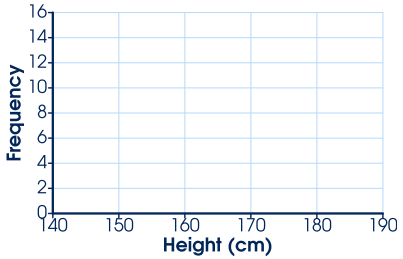
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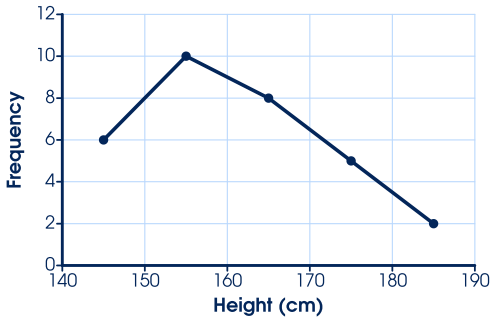
Frequency polygons

1 Draw a frequency polygon for this data.

Group	Frequency
$140 \leq x < 150$	3
$150 \leq x < 160$	8
$160 \leq x < 170$	12
$170 \leq x < 180$	9
$180 \leq x < 190$	4



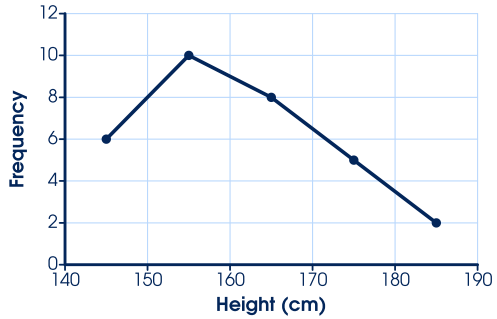
2 The frequency polygon shows some data.



Write down the modal class.

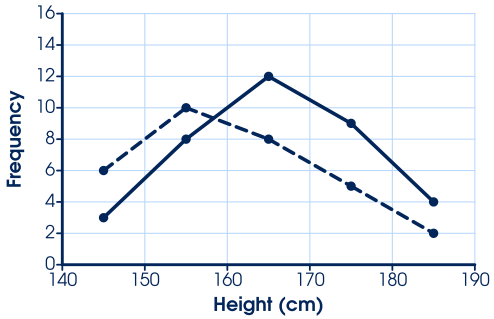
3 Explain why the points of a frequency polygon are plotted at the midpoints of the groups.

4 The frequency polygon shows some data.



Show that the total frequency is 31.

5 The frequency polygons compare two groups, A (solid) and B (dashed).



Compare the two groups.

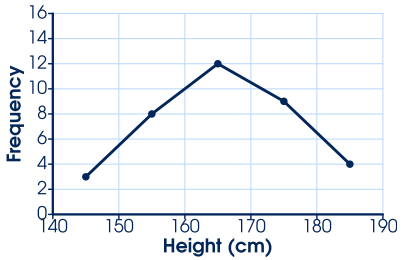
6 The table shows some data.

Group	Frequency
$140 \leq x < 150$	3
$150 \leq x < 160$	8
$160 \leq x < 170$	12
$170 \leq x < 180$	9
$180 \leq x < 190$	4

Work out an estimate for the mean.

Mr&Mrs MATHS

1



Plot at the midpoints and join with straight lines.

2 The highest point is at 155.

Modal class: **$150 \leq x < 160$**

3 We do not know the exact values in each group.

The midpoint is used to represent all the values in that group.

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Frequency polygons

4 6 + 10 + 8 + 5 + 2 = **31** ✓

5 Estimated means: A ≈ 165.8, B ≈ 160.8

Group **A** tends to have higher values.

6 Midpoints × frequency:
145×3 + 155×8 + 165×12 + 175×9 + 185×4

= 5970

5970 ÷ 36 = **165.83**

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