Frequency Polygon - Worksheet

Skill

Group A - Class widths of 10

For these grouped frequency tables, draw a frequency polygon:

1)

Values, x	Frequency
$0 < x \leq 10$	3
$10 < x \leq 20$	7
$20 < x \leq 30$	6
$30 < x \leq 40$	2

2)

Values, x	Frequency
$0 < x \leq 10$	2
$10 < x \leq 20$	10
$20 < x \leq 30$	5
$30 < x \leq 40$	3

3)

Values, x	Frequency
$0 < x \leq 10$	4
$10 < x \leq 20$	6
$20 < x \leq 30$	9
$30 < x \leq 40$	5

4)

Values, x	Frequency
$0 < x \leq 10$	3
$10 < x \leq 20$	8
$20 < x \leq 30$	10
$30 < x \leq 40$	2

Group B - Class widths of 100

For these grouped frequency tables, draw a frequency polygon:

1)

Values, x	Frequency
$0 \leq x < 100$	3
$100 \leq x < 200$	7
$200 \leq x < 300$	6
$300 \leq x < 400$	2

2)

Values, x	Frequency
$0 \leq x < 100$	2
$100 \leq x < 200$	10
$200 \leq x < 300$	5
$300 \leq x < 400$	3

3)

Values, x	Frequency
$0 \leq x < 100$	4
$100 \leq x < 200$	6
$200 \leq x < 300$	9
$300 \leq x < 400$	5

4)

Values, x	Frequency
$0 \leq x < 100$	3
$100 \leq x < 200$	8
$200 \leq x < 300$	10
$300 \leq x < 400$	2

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Frequency Polygon - Worksheet

Group C - Class widths of 20

For these grouped frequency tables, draw a frequency polygon:

1)

Values, x	Frequency
0 ≤ x < 20	3
20 ≤ x < 40	7
40 ≤ x < 60	6
60 ≤ x < 80	2

2)

Values, x	Frequency
0 ≤ x < 20	2
20 ≤ x < 40	10
40 ≤ x < 60	5
60 ≤ x < 80	3

3)

Values, x	Frequency
0 ≤ x < 20	4
20 ≤ x < 40	6
40 ≤ x < 60	9
60 ≤ x < 80	5

4)

Values, x	Frequency
0 ≤ x < 20	3
20 ≤ x < 40	8
40 ≤ x < 60	10
60 ≤ x < 80	2

Frequency Polygon - Worksheet

Applied

1) A farmer keeps a record of the yields from his blueberry plants.
Here are the results:

Weights, w (g)	Frequency
$0 < h \leq 200$	1
$200 < h \leq 400$	6
$400 < h \leq 600$	17
$600 < h \leq 800$	18
$800 < h \leq 1000$	11

(a) Draw a frequency polygon for the results.

(b) How many blueberry plants did the farmer measure the yields for?

2) Sam measures the heights of some plants.
Here are the results:

Heights, h (cm)	Frequency
$0 < h \leq 50$	3
$50 < h \leq 100$	5
$100 < h \leq 150$	10
$150 < h \leq 200$	17
$200 < h \leq 250$	6

(a) Draw a frequency polygon for the results

(b) How many plants were less than or equal to $1m$ tall?

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Frequency Polygon - Worksheet

3) Here is a frequency polygon showing scores in a test.

(a) Complete the grouped frequency table:

Scores, x	Frequency
$0 \leq x < 20$	
$20 \leq x < 40$	
$40 \leq x < 60$	
$60 \leq x < 80$	
$80 \leq x < 100$	

(b) The pass mark was 40.
How many people passed the test?

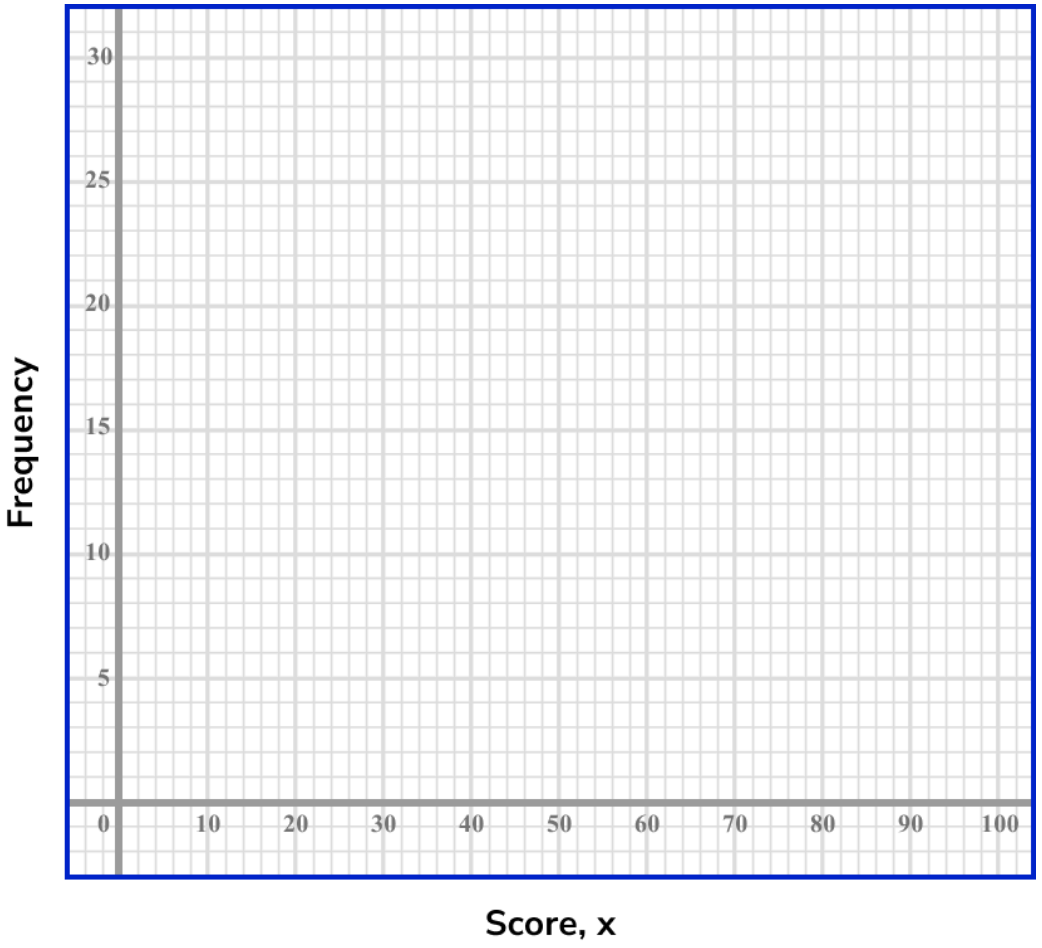
Frequency Polygon - Exam Questions

1) The test scores of 80 students are recorded.

The frequency table shows the information.

Scores, x	Frequency
$0 \leq x < 20$	7
$20 \leq x < 40$	13
$40 \leq x < 60$	27
$60 \leq x < 80$	19
$80 \leq x < 100$	14

Draw a frequency polygon for the information in the table.



(2 marks)

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Frequency Polygon - Exam Questions

2) The speeds of 50 vehicles are recorded.

The frequency table shows the information.

Speed, v (kmph)	Frequency
$0 < v \leq 20$	1
$20 < v \leq 40$	9
$40 < v \leq 60$	8
$60 < v \leq 80$	17
$80 < v \leq 100$	13
$100 < v \leq 120$	2

Draw a frequency polygon for the information in the table.

(2 marks)

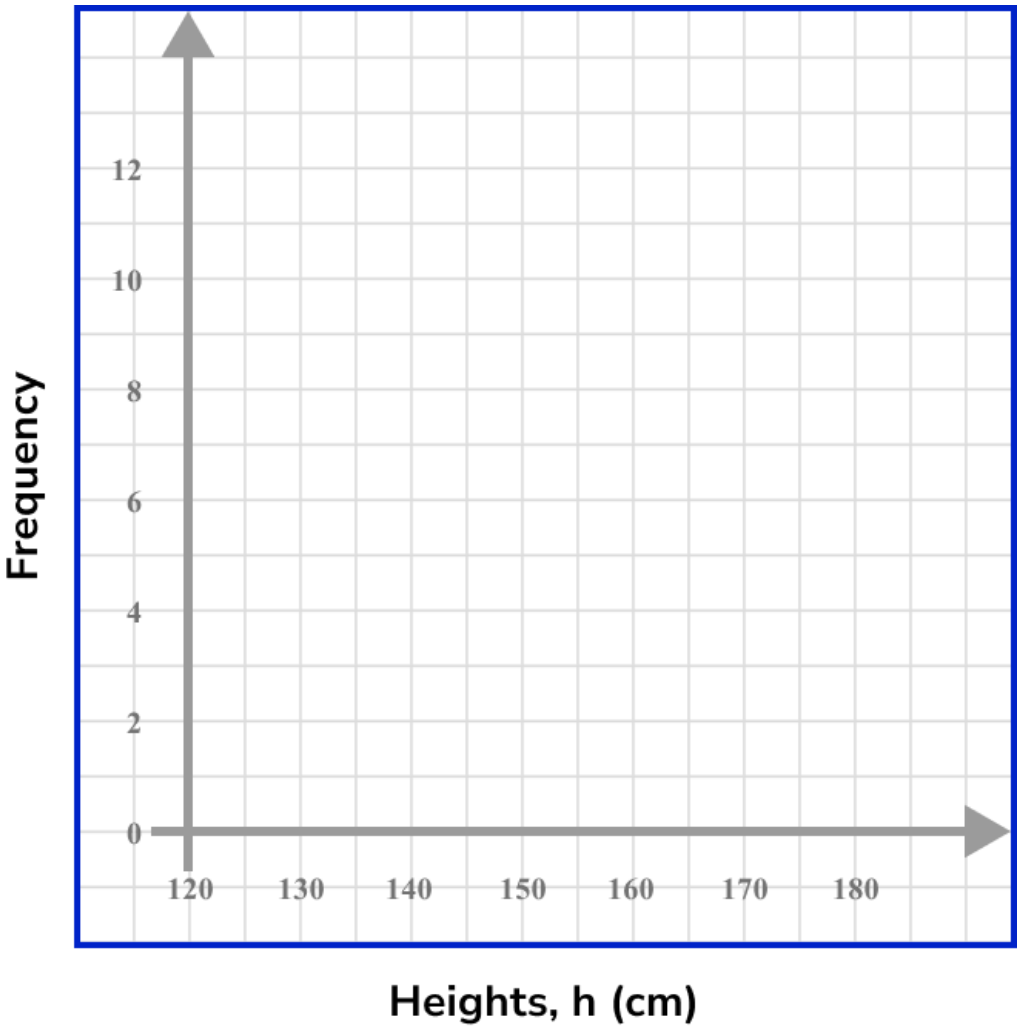
Frequency Polygon - Exam Questions

3) The heights of 30 students are measured.

The frequency table shows the information.

Heights, h (cm)	Frequency
120 < h ≤ 130	1
130 < h ≤ 140	5
140 < h ≤ 150	10
150 < h ≤ 160	9
160 < h ≤ 170	3

Draw a frequency polygon for the information in the table.



(2 marks)

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Frequency Polygon - Answers

<table>
<tr><th></th><th>Question</th><th>Answer</th></tr>
<tr><td></td><td>Skill Questions</td><td></td></tr>
<tr><td>Group A</td><td>For these grouped frequency tables, draw a frequency polygon:
1)
<table>
<tr><th>Values, x</th><th>Frequency</th></tr>
<tr><td>0 < x ≤ 10</td><td>3</td></tr>
<tr><td>10 < x ≤ 20</td><td>7</td></tr>
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2)
<table>
<tr><th>Values, x</th><th>Frequency</th></tr>
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<tr><td>10 < x ≤ 20</td><td>10</td></tr>
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</table>
3)
<table>
<tr><th>Values, x</th><th>Frequency</th></tr>
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<tr><td>10 < x ≤ 20</td><td>6</td></tr>
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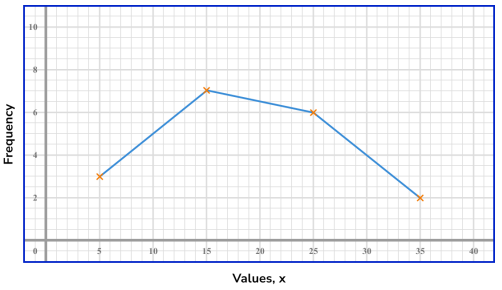
<tr><td>30 < x ≤ 40</td><td>5</td></tr>
</table>
4)
<table>
<tr><th>Values, x</th><th>Frequency</th></tr>
<tr><td>0 < x ≤ 10</td><td>3</td></tr>
<tr><td>10 < x ≤ 20</td><td>8</td></tr>
<tr><td>20 < x ≤ 30</td><td>10</td></tr>
<tr><td>30 < x ≤ 40</td><td>2</td></tr>
</table></td><td>1)
 

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 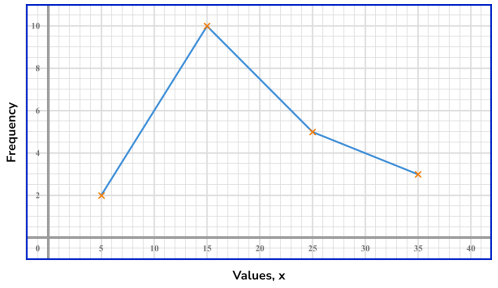

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 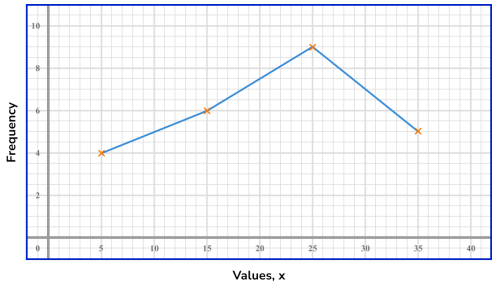

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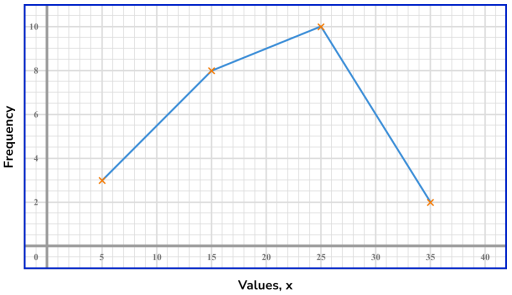
 
</td></tr>
</table>

Frequency Polygon - Answers

Group B

For these grouped frequency tables, draw a frequency polygon:

1)

Values, x	Frequency
0 ≤ x < 100	3
100 ≤ x < 200	7
200 ≤ x < 300	6
300 ≤ x < 400	2

2)

Values, x	Frequency
0 ≤ x < 100	2
100 ≤ x < 200	10
200 ≤ x < 300	5
300 ≤ x < 400	3

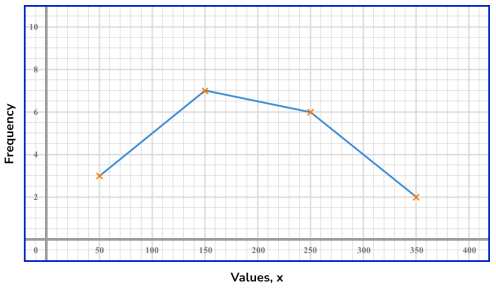
3)

Values, x	Frequency
0 ≤ x < 100	4
100 ≤ x < 200	6
200 ≤ x < 300	9
300 ≤ x < 400	5

4)

Values, x	Frequency
0 ≤ x < 100	3
100 ≤ x < 200	8
200 ≤ x < 300	10
300 ≤ x < 400	2

1)



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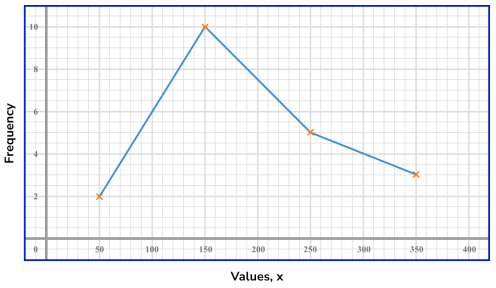

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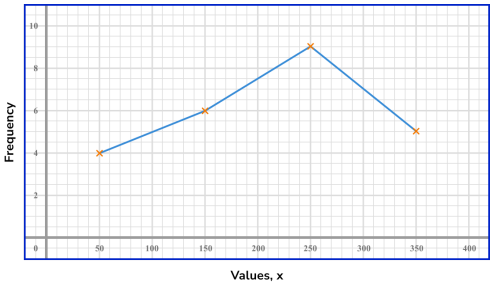

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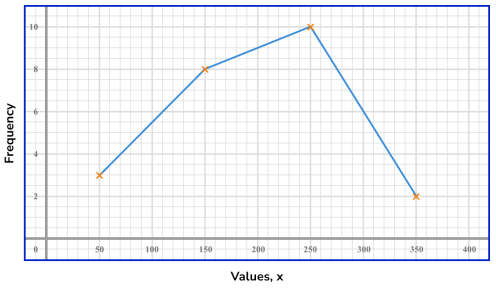

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Frequency Polygon - Answers

Group C

For these grouped frequency tables, draw a frequency polygon:

1)

Values, x	Frequency
0 ≤ x < 20	3
20 ≤ x < 40	7
40 ≤ x < 60	6
60 ≤ x < 80	2

2)

Values, x	Frequency
0 ≤ x < 20	2
20 ≤ x < 40	10
40 ≤ x < 60	5
60 ≤ x < 80	3

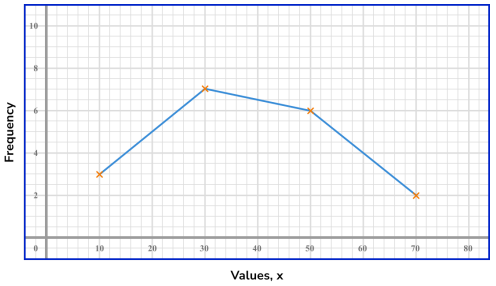
3)

Values, x	Frequency
0 ≤ x < 20	4
20 ≤ x < 40	6
40 ≤ x < 60	9
60 ≤ x < 80	5

4)

Values, x	Frequency
0 ≤ x < 20	3
20 ≤ x < 40	8
40 ≤ x < 60	10
60 ≤ x < 80	2

1)



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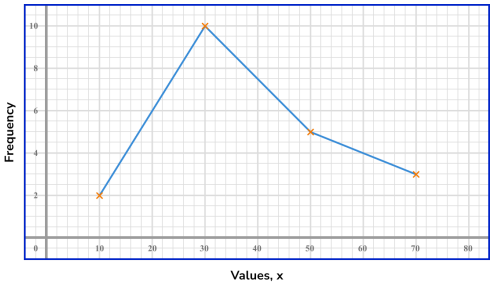

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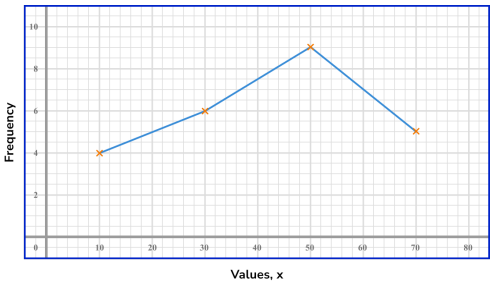

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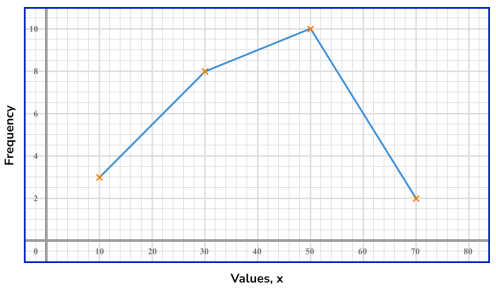
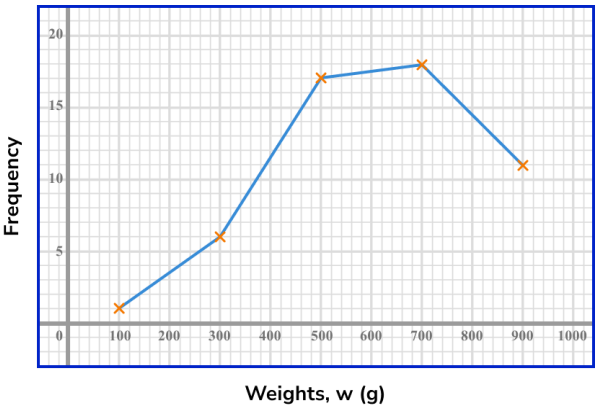


Frequency Polygon - Answers

	Question	Answer
	Applied Questions	
1)	A farmer keeps a record of the yields from his blueberry plants. Here are the results: **a)** Draw a frequency polygon for the results. **b)** How many blueberry plants did the farmer measure the yields for?	**a)** **b)** There were 53 blueberry plants whose yields were measured.
2)	Sam measures the heights of some plants. Here are the results:	

Weights, w (g)	Frequency
0 < h ≤ 200	1
200 < h ≤ 400	6
400 < h ≤ 600	17
600 < h ≤ 800	18
800 < h ≤ 1000	11



Heights, h (cm)	Frequency
0 < h ≤ 50	3
50 < h ≤ 100	5
100 < h ≤ 150	10
150 < h ≤ 200	17
200 < h ≤ 250	6

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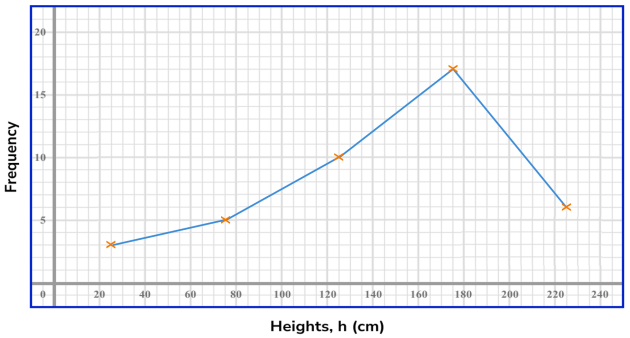
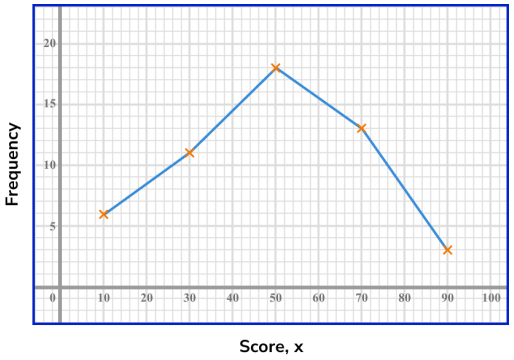
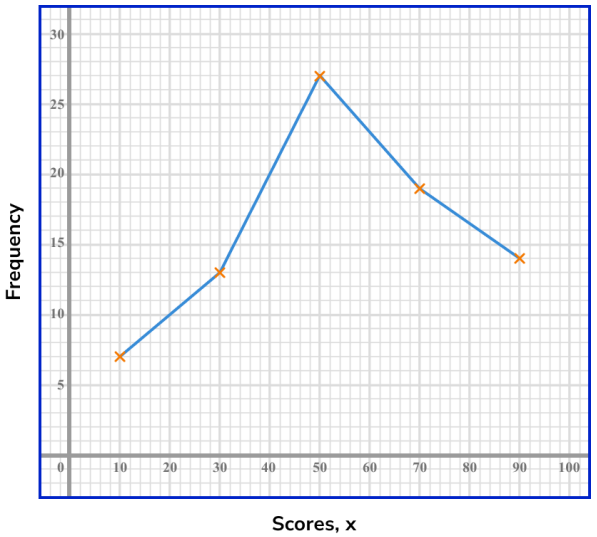
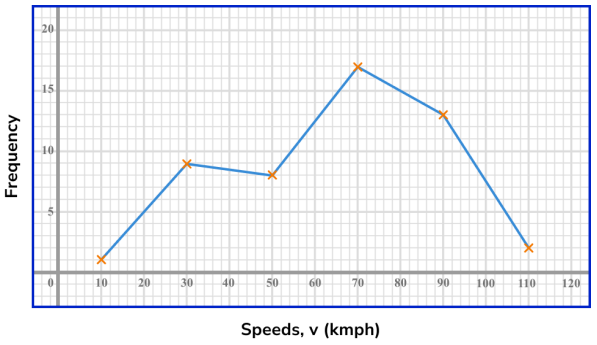
Frequency Polygon - Answers

	a) Draw a frequency polygon for the results. **b)** How many plants were less than or equal to $1m$ tall?	**a)**  **b)** 8 plants were less than or equal to $1m$ tall.
3)	Here is a frequency polygon showing scores in a test.  **a)** Complete the grouped frequency table: Scores, x / Frequency 0 ≤ x < 20 20 ≤ x < 40 40 ≤ x < 60 60 ≤ x < 80 80 ≤ x < 100 **b)** The pass mark was 40. How many people passed the test?	**a)** Scores, x / Frequency 0 ≤ x < 20 — 6 20 ≤ x < 40 — 11 40 ≤ x < 60 — 18 60 ≤ x < 80 — 13 80 ≤ x < 100 — 3 **b)** 34 people passed the test.

Frequency Polygon - Mark Scheme

	Question	Answer	
	Exam Questions		
1)	The test scores of 80 students are recorded. The frequency table shows the information. **Scores, x / Frequency** 0 ≤ x < 20 — 7 20 ≤ x < 40 — 13 40 ≤ x < 60 — 27 60 ≤ x < 80 — 19 80 ≤ x < 100 — 14 Draw a frequency polygon for the information in the table.	Midpoints - 10, 30, 50, 70, 90 	(1) (1)
2)	The speeds of 50 vehicles are recorded. The frequency table shows the information. **Speed, v (kmph) / Frequency** 0 < v ≤ 20 — 1 20 < v ≤ 40 — 9 40 < v ≤ 60 — 8 60 < v ≤ 80 — 17 80 < v ≤ 100 — 13 100 < v ≤ 120 — 2 Draw a frequency polygon for the information in the table.	Midpoints - 10, 30, 50, 70, 90, 110 	(1) (1)

Frequency Polygon - Mark Scheme

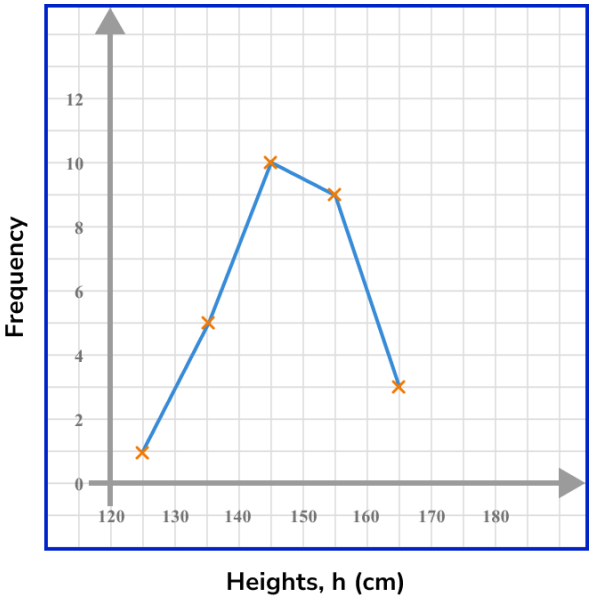
3) The heights of 30 students are measured.

The frequency table shows the information.

Heights, h (cm)	Frequency
120 < h ≤ 130	1
130 < h ≤ 140	5
140 < h ≤ 150	10
150 < h ≤ 160	9
160 < h ≤ 170	3

Draw a frequency polygon for the information in the table.

Midpoints - 125, 135, 145, 155, 165



(1)

(1)

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