



# EXAM PAPERS PRACTICE

GCSE OCR Math J560

Frequency Polygon

Answers

*"We will help you to  
achieve A Star "*



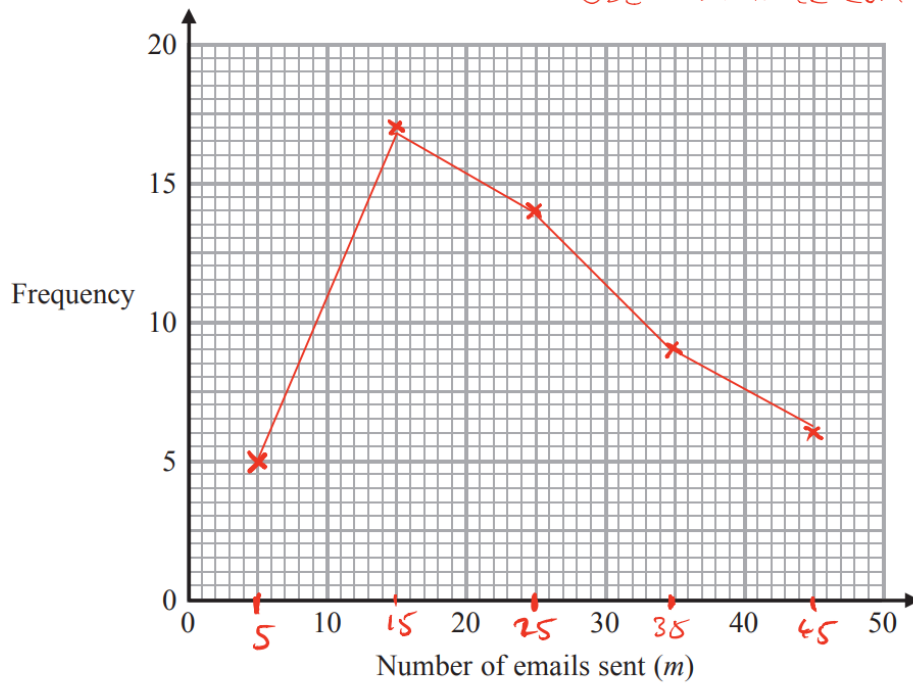
**Answer 1**

The frequency table gives information about the numbers of emails sent by 51 teachers on Monday.

Number of emails sent ( $m$ ) <i>MIVS</i>	Frequency
$0 < m \leq 10$ <i>5</i>	5
$10 < m \leq 20$ <i>15</i>	17
$20 < m \leq 30$ <i>25</i>	14
$30 < m \leq 40$ <i>35</i>	9
$40 < m \leq 50$ <i>45</i>	6

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

*USE MID INTERVAL VALUES.*





**Answer 2**

The table shows some information about the ages of 60 teachers.

MIVs	Age ( $a$ years)	Frequency
25	$20 < a \leq 30$	6
35	$30 < a \leq 40$	16
45	$40 < a \leq 50$	14
55	$50 < a \leq 60$	22
65	$60 < a \leq 70$	2

(a) Write down the modal class interval.

↳ Most Common

$$50 < a \leq 60$$



**Answer 3**

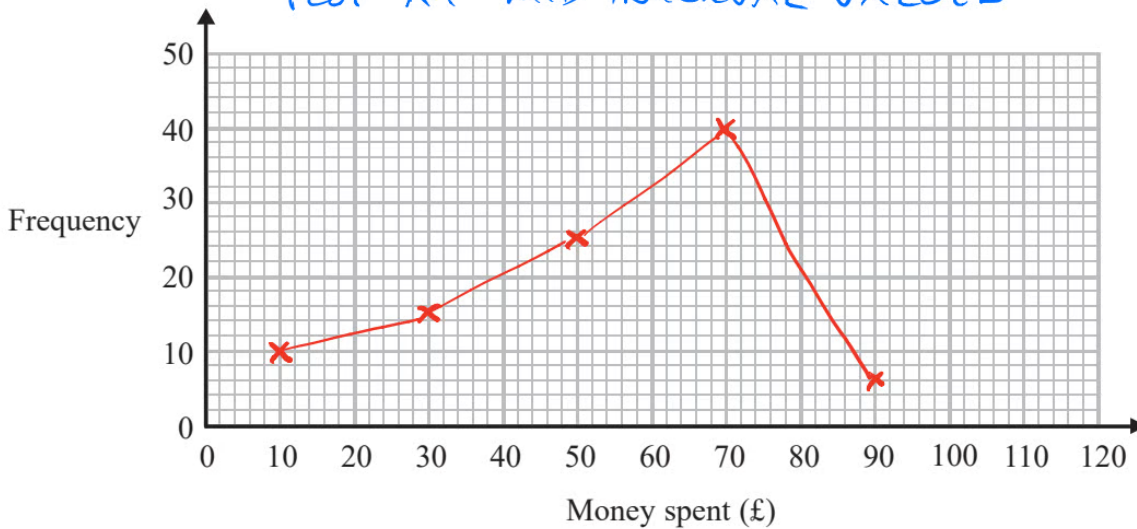
The table gives information about the money, £ $A$ , some people spent on an internet site one day.

MIVS

	Money spent (£ $A$ )	Frequency
<u>10</u>	$0 < A \leq 20$	10
<u>30</u>	$20 < A \leq 40$	15
<u>50</u>	$40 < A \leq 60$	25
<u>70</u>	$60 < A \leq 80$	40
<u>90</u>	$80 < A \leq 100$	6

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

*Plot At Mid Interval Values*



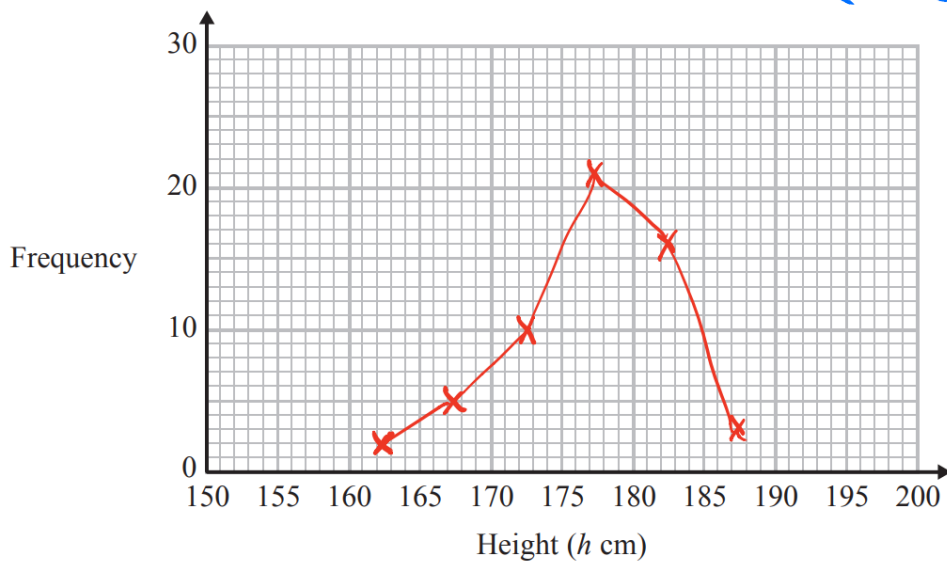


**Answer 4**

The frequency table gives information about the heights of some people.

Height ( $h$ cm)	<u>MIVs</u>	Frequency
$160 < h \leq 165$	162.5	2
$165 < h \leq 170$	167.5	5
$170 < h \leq 175$	172.5	10
$175 < h \leq 180$	177.5	21
$180 < h \leq 185$	182.5	16
$185 < h \leq 190$	187.5	4

Draw a frequency polygon for this information. — USE MID INTERVAL VALUES (MIVs)





**Answer 5**

\*(b) Nalini says that at least a quarter of these teachers sent more than 30 emails.

Is Nalini correct?

You must explain your answer.

$$\text{PROP OF TEACHERS} > 30 \text{ EMAILS} = \frac{9+6}{51} = 0.294 \dots > 0.25$$

YES, NALINI IS CORRECT AS  $0.294 > 0.25$

**Answer 6**

(b) Write down the modal class interval.

MODE = MOST COMMON

$$\underline{\underline{30 < t \leq 40}}$$



**Answer 7**

The table shows information about the heights of 80 children.

MIVs	Height ( $h$ cm)	Frequency	CF
135	$130 < h \leq 140$	4	4
145	$140 < h \leq 150$	11	15
155	$150 < h \leq 160$	24	39
165	$160 < h \leq 170$	22	61
175	$170 < h \leq 180$	19	

(a) Find the class interval that contains the median.

↳ "MIDDLE ONE" - 40<sup>TH</sup> CHILD

MEDIAN IS IN  $160 < h \leq 170$



**Answer 8**

The grouped frequency table gives information about the heights of 30 students.

Height ( $h$ cm)	Frequency
$130 < h \leq 140$	1
$140 < h \leq 150$	7
$150 < h \leq 160$	8
$160 < h \leq 170$	10
$170 < h \leq 180$	4

(a) Write down the modal class interval. ↗ "Most Common"

$160 < h \leq 170$

**Answer 9**

The table gives information about the temperature,  $T^{\circ}\text{C}$ , at noon in a town for 50 days.

Temperature ( $T^{\circ}\text{C}$ )	Frequency	MIV	MIV $\times$ F
$8 < T \leq 12$	6	<del>10</del>	<del>60</del>
$12 < T \leq 16$	8	<del>14</del>	.
$16 < T \leq 20$	13	18	.
$20 < T \leq 24$	21	22	.
$24 < T \leq 28$	2	26	.

(a) Write down the modal class interval.

↳ MOST COMMON → HIGHEST FREQUENCY

$20 < T \leq 24$

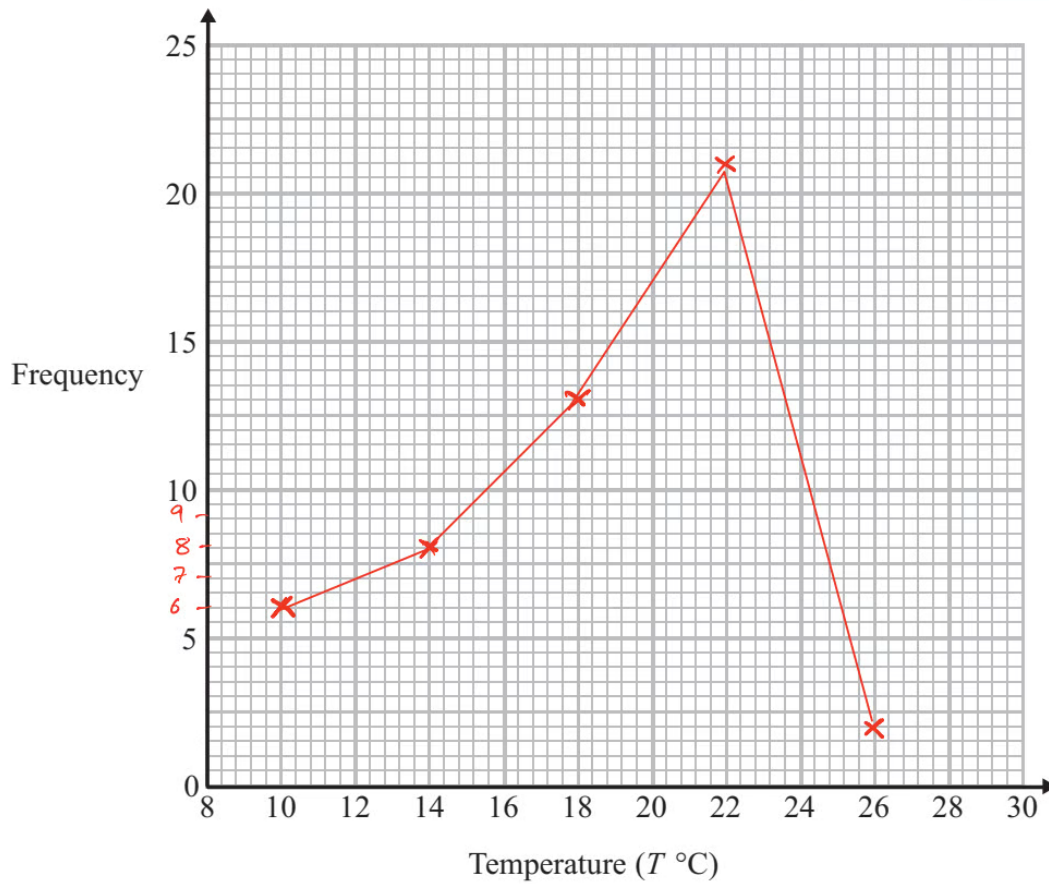




**Answer 10**

(c) Draw a frequency polygon for the information in the table.

USE MIVS





**Answer 11**

The frequency table gives information about the times it took some office workers to get to the office one day.

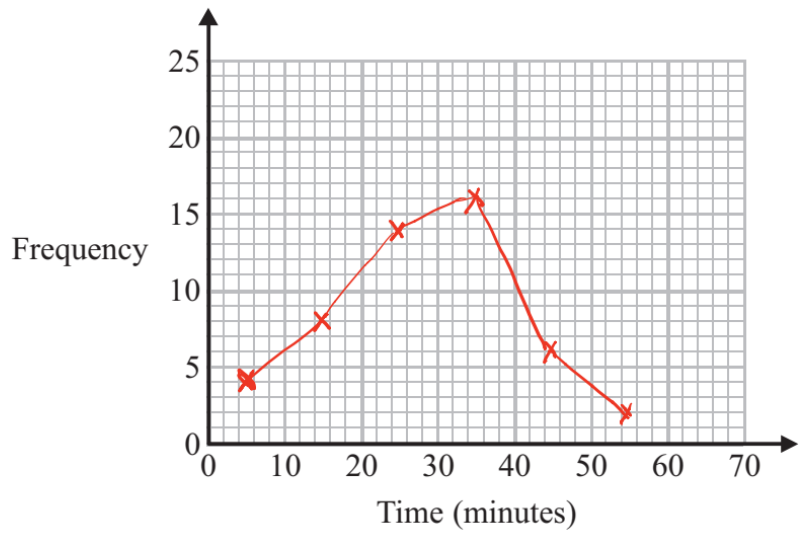
Time ( $t$ minutes)	Frequency
$0 < t \leq 10$	4
$10 < t \leq 20$	8
$20 < t \leq 30$	14
$30 < t \leq 40$	16
$40 < t \leq 50$	6
$50 < t \leq 60$	2

MODAL

MIVS  
5  
15  
25  
35  
45  
55

6  
2  
50

(a) Draw a frequency polygon for this information.





**Answer 12**

One of the office workers is chosen at random.

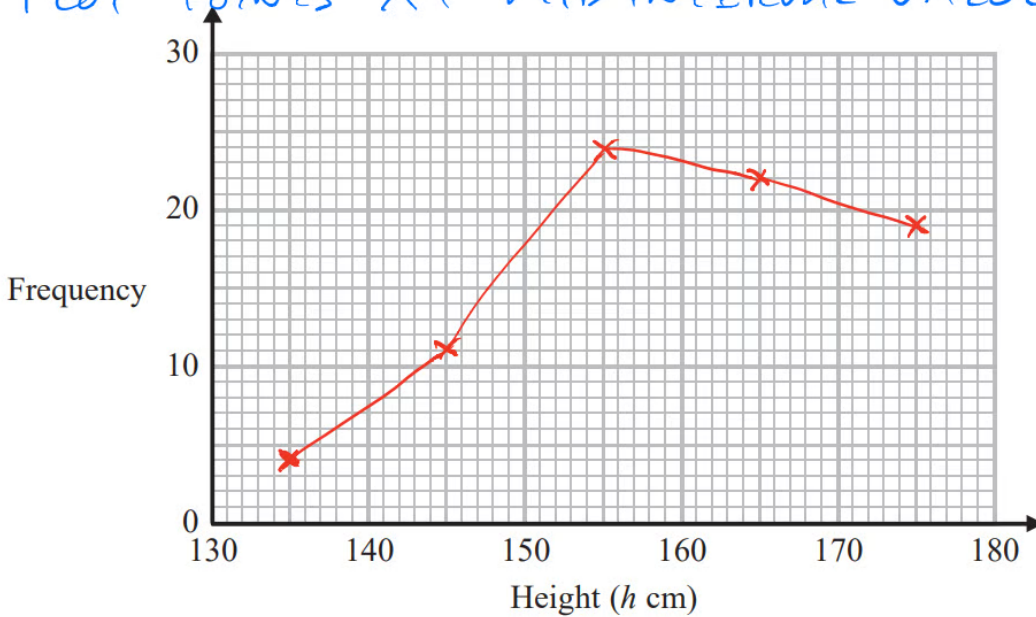
- (c) Work out the probability that this office worker took more than 40 minutes to get to the office.

$$P = \frac{\text{No Who took } > 40 \text{ mins}}{\text{Total No of Office Workers}} = \frac{8}{50} \quad (0.16)$$

**Answer 13**

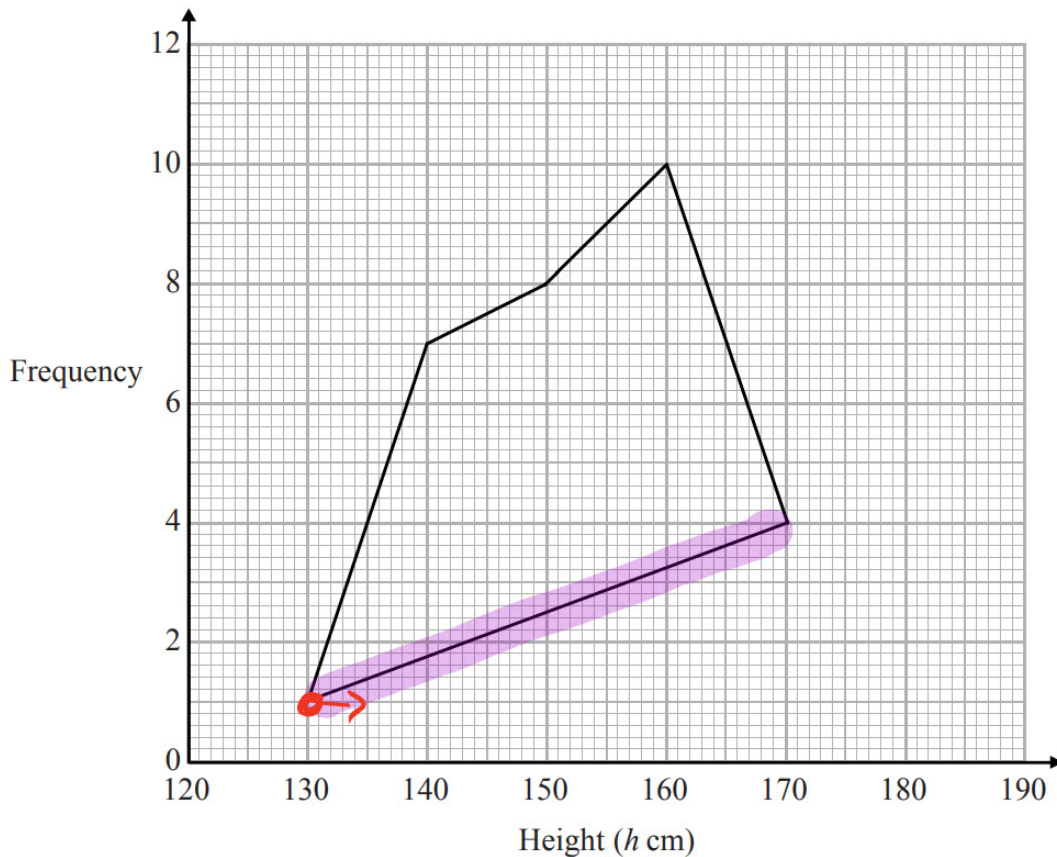
- (b) Draw a frequency polygon for the information in the table.

Plot Points At Mid Interval Values



**Answer 14**

This incorrect frequency polygon has been drawn for the information in the table.



(b) Write down two things wrong with this incorrect frequency polygon.

- BOTTOM LINE SHOULD NOT BE THERE
- POINTS SHOULD BE PLOTTED IN THE MIDDLE OF INTERVALS



**Answer 15**

(b) Calculate an estimate for the mean temperature.

$$\text{MEAN} = \frac{\text{"TOTAL TEMPERATURE"}}{\text{NUMBER OF DAYS}}$$

$$\text{MEAN} = \frac{6 \times 10 + 8 \times 14 + 13 \times 18 + 21 \times 22 + 2 \times 26}{6 + 8 + 13 + 21 + 2}$$

$$= \frac{920}{50}$$

$$= \underline{\underline{18.4}}$$