



### Exercise 9A

Question 11:

A = 100 be the assumed mean, we have

Marks	Frequency $f_i$	Mid value $x_i$	Deviation $d_i = (x_i - 100)$	$(f_i \times d_i)$
0 - 40	12	20	-80	-960
40 - 80	20	60	-40	-800
80 - 120	35	100 = A	0	0
120 - 160	30	140	40	1200
160 - 200	23	180	80	1840
	$\Sigma f_i = 120$			$\Sigma(f_i \times d_i) = 1280$

$$\bar{x} = A + \frac{\Sigma(f_i \times d_i)}{\Sigma f_i} = \left(100 + \frac{1280}{120}\right) = (100 + 10.67) = 110.67$$

Hence, mean = 110.67

Question 12:

Let the assumed mean be 150, h = 20

Marks	Frequency $f_i$	Mid value $x_i$	Deviation $d_i = x_i - 150$	$f_i \times d_i$
100 - 120	10	110	-40	-400
120 - 140	20	130	-20	-400
140 - 160	30	150 = A	0	0
160 - 180	15	170	20	300
180 - 200	5	190	40	200
	$\Sigma f_i = 80$			$\Sigma f_i \times d_i = -300$

$$\bar{x} = A + \frac{\Sigma(f_i \times d_i)}{\Sigma f_i} = \left(150 + \frac{(-300)}{80}\right) = (150 - 3.75) = 146.25$$

Hence, Mean = 146.25

\*\*\*\*\* END \*\*\*\*\*