



### Statistics Ex 7.1 Q9

**Answer :**

Given:

Age(in years): $x_i$	15	16	17	18	19	20
No.of students: $f_i$	3	8	10	10	5	4

First of all prepare the frequency table in such a way that its first column consist of the values of the variate( $x_i$ ) and the second column the corresponding frequencies( $f_i$ ).

Thereafter multiply the frequency of each row with corresponding values of variable to obtain third column containing( $f_i x_i$ ).

Then, sum of all entries in the column second and denoted by  $\sum f_i$  and in the third column to obtain  $\sum f_i x_i$ .

Age(in years): $x_i$	No.of students : $f_i$	$f_i x_i$
15	3	45
16	8	128
17	10	170
18	10	180
19	5	95
20	4	80
	$\sum f_i = 40$	$\sum f_i x_i = 698$

We know that mean,  $\bar{X} = \frac{\sum f_i x_i}{\sum f_i}$

$$\bar{X} = \frac{698}{40}$$

$$= 17.45$$

Hence, the mean age of the students = **17.45 years**

### Statistics Ex 7.1 Q10

**Answer :**

Given:

Schools	I	II	III	IV
No.of candidates: $x_i$	60	48	Not Available	40
Average score : $f_i$	75	80	55	50

Mean score of the candidates = 66

Let the number of candidates that appeared from school III be  $x$ .

First of all prepare the frequency table in such a way that its first column consists of the values of the variate( $x_i$ ) and the second column the corresponding frequencies( $f_i$ ).

Thereafter multiply the frequency of each row with corresponding values of variable to obtain third column containing( $f_i x_i$ ).

Then, sum of all entries in the column second and denoted by  $\sum f_i$  and in the third column to obtain  $\sum f_i x_i$ .

No.of candidates: $x_i$	Average score : $f_i$	$f_i x_i$
60	75	4500
48	80	3840
$x$	55	$55x$
40	50	2000
	$\sum f_i = 260$	$\sum f_i x_i = 10340 + 55x$

We know that mean,  $\bar{X} = \frac{\sum f_i x_i}{\sum f_i}$

$$66 = \frac{10340 + 55x}{260}$$

By using cross multiplication method,

$$10340 + 55x = 17160$$

$$55x = 17160 - 10340$$

$$x = \frac{6820}{55}$$

$$= 124$$

Hence, the number of candidates that appeared from school III is 124.

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