



### Statistics Ex 7.1 Q3

**Answer :**

Given:

$x_i$	10	15	$p$	25	35
$f_i$	3	10	25	7	5

Also, mean = 20.6

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

$\sum f_i x_i$ .

$x_i$	$f_i$	$f_i x_i$
10	3	30
15	10	150
$p$	25	$25p$
25	7	175
35	5	175
	$\sum f_i = 50$	$\sum f_i x_i = 530 + 25p$

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

$$20.6 = \frac{530 + 25p}{50}$$

By using cross multiplication method,

$$530 + 25p = 20.6 \times 50$$

$$25p = 1030 - 530$$

$$p = \frac{500}{25}$$

$$= 20$$

Hence,  $p = \boxed{20}$

### Statistics Ex 7.1 Q4

Answer :

Given:

$x_i$	5	10	15	20	25
$f_i$	6	$p$	6	10	5

Also, mean = 15

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  $\sum f_i x_i$ .

$x_i$	$f_i$	$f_i x_i$
5	6	30
10	$p$	$10p$
15	6	90
20	10	200
25	5	125
$\sum f_i = 27 + p$		$\sum f_i x_i = 445 + 10p$

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

$$15 = \frac{445 + 10p}{27 + p}$$

By using cross multiplication method

$$405 + 15p = 445 + 10p$$

$$15p - 10p = 445 - 405$$

$$5p = 40$$

$$p = \frac{40}{5}$$

$$= 8$$

Hence,  $p = \boxed{8}$

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