



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 *****