



Statistics Ex 7.2 Q7

Answer :

Let the assume mean be $A = 2$.

No. of misprint per page (x_i):	No. of pages (f_i):	$d_i = x_i - A$ $= x_i - 2$	$f_i d_i$
0	154	-2	-308
1	95	-1	-95
2	36	0	0
3	9	1	9
4	5	2	10
5	1	3	3
	$\sum f_i = 300$		$\sum f_i d_i = -381$

We know that mean, $\bar{X} = A + \frac{1}{N} \sum_{i=1}^n f_i d_i$

Now, we have $N = \sum f_i = 300$, $\sum f_i d_i = -381$ and $A = 2$.

Putting the values in above formula, we have

$$\begin{aligned}
 \bar{X} &= A + \frac{1}{N} \sum_{i=1}^n f_i d_i \\
 &= 2 + \frac{1}{300} \times (-381) \\
 &= 2 - \frac{381}{300} \\
 &= 2 - 1.27 \\
 &= 0.73
 \end{aligned}$$

Hence, the mean number of students absent per day is 0.73.

Statistics Ex 7.2 Q8

Answer :

Let the assume mean be $A = 2$.

No. of accidents (x_i):	No. of workers (f_i):	$d_i = x_i - A$ $= x_i - 2$	$f_i d_i$
0	70	-2	-140
1	52	-1	-52
2	34	0	0
3	3	1	3
4	1	2	2
	$\sum f_i = 160$		$\sum f_i d_i = -187$

We know that mean, $\bar{X} = A + \frac{1}{N} \sum_{i=1}^n f_i d_i$

Now, we have $N = \sum f_i = 160$, $\sum f_i d_i = -187$ and $A = 2$.

Putting the values in the above formula, we get

$$\begin{aligned}
 \bar{X} &= A + \frac{1}{N} \sum_{i=1}^n f_i d_i \\
 &= 2 + \frac{1}{160} \times (-187) \\
 &= 2 - \frac{187}{160} \\
 &= 2 - 1.168 \\
 &= 0.83
 \end{aligned}$$

Hence, the average number of accidents per worker is 0.83.

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