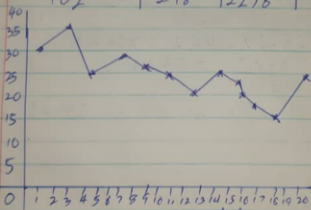


2.)

Week of Exp x	no. of rejects y	xy	x^2
7	26	182	49
9	20	180	81
6	28	168	36
14	16	224	196
10	23	414	324
12	18	216	144
10	24	240	100
4	26	104	16
2	38	76	4
11	22	242	12
1	32	32	1
8	25	200	64
102	298	2278	1136



$$\text{Regression equation} = \frac{n \sum xy - \sum x \sum y}{n \sum x^2 - (\sum x)^2} = \frac{(12 \times 2278) - (102 \times 298)}{(12 \times 1136) - (102)^2} = \frac{-3060}{3228}$$

$$= -0.947 \quad \therefore \text{Regression eqn} = -0.45$$

EJALONIBU DAVID OLUFEPI

19/sci/14/004

Sciences/Geology

STA 104

10

CLASS INTERVAL	x	Class Boundary	Freq	fx	CF
10.1-19.0	14.55	9.6-19.5	4	58.20	4
19.1-29.0	24.05	18.6-29.5	9	216.45	13
29.1-39.0	34.05	28.6-39.5	7	238.35	20
39.1-49.0	44.05	38.6-49.5	9	396.45	29
49.1-59.0	54.05	48.6-59.5	8	432.40	37
59.1-69.0	64.05	58.6-69.5	6	384.30	43
69.1-79.0	74.05	68.6-79.5	3	222.15	46
79.1-89.0	84.05	78.6-89.5	1	84.05	47
89.1-99.0	94.05	88.6-99.5	2	188.1	49
99.1-109.0	104.05	98.6-109.5	1	104.05	50
			50	2324.5	

$$\begin{aligned}
 i. \quad \bar{x} &= \frac{\sum fx}{\sum f} \\
 &= \frac{2324.5}{50} = 46.49 \\
 \therefore \bar{x} &= 46.5
 \end{aligned}$$

$$\begin{aligned}
 i. \quad \text{Median} &= L_1 + \left[\frac{N/2 - F}{F_{\text{med}}} \right] C \\
 &= 39.1 + \left[\frac{25 - 29}{9} \right] 9.9 \\
 &= 39.1 + \left[\frac{25 - 29}{9} \right] 9.9 \\
 &= 39.1 + [-1.4]
 \end{aligned}$$

$$117) \text{ Mode} = L_1 + \left[\frac{D_1}{D_1 + D_2} \right] C$$

modal class

$$\text{① } 19.1 - 29.0$$

$$\text{② } 39.1 - 49.0$$

1st mode (19.1-29.0)

$$= D_1 = 9 - 4 = 5, D_2 = 9 - 7 = 2$$

$$= 18.6 + \left[\frac{5}{5+2} \right] 9.9$$

$$= 18.6 + 7.07 = 25.67$$

2nd mode (39.1-49.0)

$$= D_1 = 9 - 7 = 2, D_2 = 9 - 8 = 1$$

$$= 38.6 + \left[\frac{2}{2+1} \right] 9.9$$

$$= 38.6 + 6.6 = 45.2$$

Multiple mode

$$= 25.67 + 45.2 = 70.87$$

$$= \frac{70.87}{2} = 35.43$$

$$\therefore \text{multiple mode} = 35.43$$

$$= 39.1 - 4.4 = 34.7$$

$$\therefore F_{med} = 34.7$$

$$\textcircled{2} Q_3 = L_3 + \left[\frac{3N/4 - CF_0}{F_{med}} \right]$$

$$3N/4 = 37.5 \quad C = 9.9$$

$$L_3 = 58.6, \quad CF_0 = 37$$

$$F = 6$$

$$58.6 + \left[\frac{37.5 - 37}{6} \right] 9.9$$

$$= 58.6 + 0.835$$

$$= 59.42 \quad \therefore Q_3 = 59.42$$

$$\textcircled{3} D_2 = l_2 \left[\frac{2N/10 - CF_b}{F_{med}} \right]$$

$$2N/10 = 10, \quad C = 9.9, \quad F = 9$$

$$l_2 = 18.6, \quad CF_b = 4$$

$$= 18.6 + \left[\frac{10 - 4}{9} \right] 9.9$$

$$= 18.6 + [6/9] 9.9$$

$$= 25.2$$

$$\therefore D_2 = 25.2$$

$$\textcircled{4} P_{25} = L_{25} + \left[\frac{25N/100 - CF_b}{F_{med}} \right]$$

$$= 18.6 + \left[\frac{12.5 - 4}{9} \right] 9.9$$

$$= 18.6 + 9.35 = 27.95 \quad \therefore P_{25} = 27.95$$