

X _i	Y _i	X _i Y _i	X _i ²	Y _i ²
18	17	306	324	289
23	20	460	529	400
28	23	644	784	529
32	27	864	1024	729
41	32	1312	1681	1024
59	46	2714	3481	2116
86	63	5418	7396	3969
99	74	7326	9801	5476

Jumlah386302190442502014532

n8

Mencari Persamaan Regresi

Nilai b0,69932

Nilai a4,00782

Persamaan garis4,008 + 0,699 x 386

Rumus persamaan regresi

y = a + bX

Mencari nilai a

$$a = \frac{\sum_{i=1}^n y_i - b \sum_{i=1}^n x_i}{n}$$

Mencari nilai b

$$b = \frac{n(\sum_{i=1}^n x_i y_i) - (\sum_{i=1}^n x_i)(\sum_{i=1}^n y_i)}{n(\sum_{i=1}^n x_i^2) - (\sum_{i=1}^n x_i)^2}$$

Mencari nilai b

$$b = \frac{8(19044) - (386)(302)}{8(25020) - (386)^2}$$

$$b = \frac{152352 - 116572}{200160 - 148996}$$

$$b = \frac{53780}{51164}$$

b = 0,69932

Mencari nilai a

$$a = \frac{302 - (0,69932 * 386)}{8}$$

$$a = \frac{302 - (269,937)}{8}$$

$$a = \frac{32,0625}{8}$$

a = 4,00782

1.2. a. Koefisiensi Korelasi0,99939435

1.2. b. Koefisiensi Determinasi0,99878907

1.2. b.

$$= \frac{((8 * 19044) - (386 * 302))^2}{((8 * 25020) - (386)^2) * ((8 * 14532) - (302)^2)}$$
$$= \frac{(152352 - 116572)^2}{(200160 - 148996) * (116246 - 91204)}$$
$$= \frac{(35780)^2}{51164 * 25052}$$
$$= \frac{1280208400}{1281760528}$$

= 0,99879

1.2. a.

$$= \frac{(8 * 19044) - (386 * 302)}{\sqrt{(8 * 25020 - (386)^2) * (8 * 14532 - (302)^2)}}$$
$$= \frac{152352 - 116572}{\sqrt{(200160 - 148996) * (116246 - 91204)}}$$
$$= \frac{35780}{\sqrt{51164 * 25052}}$$
$$= \frac{35780}{\sqrt{1281760528}}$$
$$= \frac{35780}{35801,7}$$

= 0,99939

Rumus Determinasi

$$r^2 = \frac{(n \sum_{i=1}^n x_i y_i - \sum_{i=1}^n x_i \sum_{i=1}^n y_i)^2}{(n \sum_{i=1}^n x_i^2 - (\sum_{i=1}^n x_i)^2)(n \sum_{i=1}^n y_i^2 - (\sum_{i=1}^n y_i)^2)}$$

Rumus kolerasi

$$r = \frac{n \sum_{i=1}^n x_i y_i - \sum_{i=1}^n x_i \sum_{i=1}^n y_i}{\sqrt{(n \sum_{i=1}^n x_i^2 - (\sum_{i=1}^n x_i)^2)(n \sum_{i=1}^n y^2 - (\sum_{i=1}^n y_i)^2)}}$$