Nama: Isep Lutpi Nur
NPM: 2113191079

	X_i	Y_i	X_iY_i	X_i^2	Y_i^2
	40	385	15400	1600	148225
	20	400	8000	400	160000
	25	395	9875	625	156025
	20	365	7300	400	133225
	30	475	14250	900	225625
	50	440	22000	2500	193600
	40	490	19600	1600	240100
	20	420	8400	400	176400
	50	560	28000	2500	313600
	40	525	21000	1600	275625
	25	480	12000	625	230400
	50	510	25500	2500	260100
Jumlah	410	5445	191325	15650	2512925
n	12				

Mencari Persamaan Regresi

Nilai b	3,22081
Nilai a	343,706
Persamaan garis	343,706 + 3,221 x 410

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

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

Mencari nilai b

$$b = \frac{12(191325) - (410)(5445)}{12(15650) - (410)^2}$$

$$b = \frac{2295900 - 2232450}{187800 - 168100}$$

$$b = \frac{63450}{19700}$$

$$b = 3{,}22081$$

Mencari nilai a

$$a = \frac{5445 - (3{,}22081 * 410)}{12}$$

$$a = \frac{5445 - (1320{,}53)}{12}$$

$$a = \frac{4124{,}47}{12}$$

$$a = 343{,}706$$

1.2. a. Koefisiensi Korelasi 0,63483727
1.2. b. Koefisiensi Determinasi 0,40301836

1.2. *b*.

$$r^2 = \frac{\left((12 * 191325) - (410 * 5445)\right)^2}{(12 * 15650 - (410)^2) * (12 * 2512925 - (5445)^2)}$$

$$r^2 = \frac{(2295900 - 2232450)^2}{(187800 - 168100) * (30155100 - 29648025)}$$

$$r^2 = \frac{(63450)^2}{19700 * 507075}$$

$$r^2 = \frac{4025902500}{9989377500}$$

$$r^2 = 0{,}403018356$$

1.2. *a*.

$$r = \frac{(12 * 191325) - (410 * 5445)}{\sqrt{(12 * 15650 - (410)^2) * (12 * 2512925 - (5445)^2)}}$$

$$r = \frac{2295900 - 2232450}{\sqrt{(187800 - 168100) * (3155100 - 29648025)}}$$

$$r = \frac{63450}{\sqrt{19700 * 507075}}$$

$$r = \frac{63450}{\sqrt{9989377500}}$$

$$r = \frac{63450}{99946{,}9}$$

$$r = 0{,}6348373$$

Rumus Determinasi

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

Rumus kolerasi

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