Calcular el coeficiente de correlación de los siguientes datos.

X	Y	x - x̄	y - ȳ	$(x-\bar{x})^2$	$(y-\bar{y})^2$	$(x-\bar{x})(y-\bar{y})$
10	2	-30	-3	900	9	90
20	3	-20	-2	400	4	40
30	4	-10	-1	100	1	10
40	5	0	0	0	0	0
50	6	10	1	100	1	10
60	7	20	2	400	4	40
70	8	30	3	900	9	90
280	35			2800	28	280

$$\bar{x} = \frac{\Sigma x}{n}$$

$$S_y = \sqrt{\frac{(y-\bar{y})^2}{n-1}}$$

$$S_x = \sqrt{(x-\bar{x})^2}$$

$10 - 27.7 =$

$$S_y = \sqrt{\frac{28}{7-1}}$$

$$S_x = \sqrt{\frac{2800}{7-1}}$$

$\bar{x}\ \frac{280}{17} = 40$

$S_y = \sqrt{2.16}$

$S_x = 21.60$

$\bar{x}\ \frac{35}{17} = 35$

$r = \frac{280}{(6)(21.60)(2.08)}$

$r = \frac{280}{279.94} = 1$

X	Y	X − x̄	Y − ȳ	(X − x̄)²	(Y − ȳ)²	(X − x̄)(Y − ȳ)
10	1	-40	3.88	1600	15.05	155.2
20	8	-30	3.12	900	9.73	93.6
30	3	-20	1.88	400	3.53	37.6
40	6	-10	1.12	100	1.25	11.1
50	9	0	4.12	0	16.97	0
60	1	10	3.88	100	15.05	38.9
70	5	20	0.12	400	0.01	2.2
80	9	30	4.12	900	16.97	123.3
90	2	40	2.88	1600	8.29	115.6
450	44			6.000	86.85	60.12

$$\bar{X} = \frac{\sum X}{n}$$

$$\bar{X} = \frac{450}{9} = 50$$

$$\bar{X} = \frac{44}{9} = 4.89$$

$$S_y = \sqrt{\frac{(Y-\bar{y})^2}{n-1}}$$

$$S_y = \sqrt{\frac{86.85}{8}}$$

$$S_y = 3.30$$

$$S_x = \sqrt{(X-\bar{x})^2}$$

$$S_x = \sqrt{\frac{6.000}{8}}$$

$$S_x = 27.39$$

$$r = \frac{60.12}{(8)(27.39)(3.30)}$$

$$r = \frac{60.12}{723.516}$$

$$r = 0.08$$