



EJERCICIOS

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Tapachula, Chiapas

30 de noviembre del 2024

Las estaturas y pesos de 10 jugadores de baloncesto de un equipo son

x	y	x * y	x ²	y ²
Estatura	Peso			
186	85	15810	34,596	7,225
189	85	16,065	35,721	7,225
190	86	16,340	36,100	7,396
192	90	17,280	36,864	8,100
193	87	16,791	37,249	7,569
193	91	17,563	37,249	8,281
198	93	18,414	39,204	8,649
201	103	20,703	40,401	10,609
203	100	20,300	41,209	10,000
205	101	20,705	42,025	10,201

* Sumatorias

$\sum x = 1,950$
 $\sum y = 921$
 $\sum x * y = 179,971$
 $\sum x^2 = 380,618$
 $\sum y^2 = 85,255$

* Suma de cuadrados

$$a) SC_x = \sum x^2 - \frac{(\sum x)^2}{n} \rightarrow 380,618 - \frac{11950^2}{10} = 380,618 - 380,250$$

$SC_x = 368$

$$b) SC_y = \sum y^2 - \frac{(\sum y)^2}{n} \rightarrow 85,255 - \frac{1921^2}{10} = 85,255 - 84,824.1$$

$SC_y = 430.9$

$$c) SCXY = \sum XY - \frac{(\sum X)(\sum Y)}{n} \rightarrow 179,971 - \frac{(1950)(921)}{10}$$

$$SCXY = 179,971 - \frac{1795,950}{10} = 179,971 - 179,595$$

$$SCXY = 376$$

* correlación $\rightarrow r$

$$r = \frac{SCXY}{\sqrt{(SCX)(SCY)}} \rightarrow \frac{376}{\sqrt{13681(430.9)}} \rightarrow \frac{376}{\sqrt{58,571.2}} \rightarrow \frac{376}{241.80}$$

$$r = 0.94$$

* Regresión lineal

$$b1 = \frac{SCXY}{SCX} = \frac{376}{368} = 1.021$$

* Paso 2

$$\bar{x} = 195 \quad \bar{y} = 92.1$$

* Paso 3

$$b0 = \bar{y} - b1 * \bar{x} = 92.1 - 1.021 * 195 = 92.1 - 199.095$$

$$b0 = 106.99$$

* Paso 4

$$MRL\hat{y} = b0 + b1 * \hat{x}$$

$$MRL\hat{y} = 106.99 + 1.021 * 208 = 106.99 + 212.36$$

$$MR\hat{Y} = 105.37 \text{ kg}$$

$$MR\hat{X} = \frac{\hat{Y} - b_0}{b_1}$$

$$MR\hat{X} = \frac{88 - 106.99}{1.021} = \frac{194.99}{1.021} = 190.9 \text{ cm}$$