



Nombre de alumno: Elías Hernández de los Santos

Nombre del profesor: Jorge Sebastián Domínguez Torres.

Nombre del trabajo: Evidencia de procedimientos del examen

Materia: Estadística Descriptiva.

Grado: 3er. Cuatrimestre.

Grupo: “A”

PASIÓN POR EDUCAR

Comitán de Domínguez Chiapas a 30 de Julio de 2021.

PREGUNTA 2

$$N=7 \quad \bar{X}=0,571428571 \quad \bar{Y}=1,85714286$$

| X | y | X · y |
|---|---|--------------|
| 1 | 1 | 1 |
| 0 | 1 | 0 |
| 1 | 2 | 2 |
| 1 | 3 | 3 |
| 0 | 2 | 0 |
| 1 | 2 | 2 |
| 0 | 2 | 0 |
| | | $\Sigma = 8$ |

$$\sigma_{xy} = \frac{8}{7} - 0,571428571 \cdot 1,85714286$$

$$\sigma_{xy} = 1,14285714 - 1,06122449$$

$$\sigma_{xy} = 0,08163265$$

PREGUNTA 3

| X | f | $(x-\bar{x})^2$ | $(x-\bar{x})^2 \cdot f$ | X.f |
|---|----|-----------------|-------------------------|-----|
| 2 | 4 | 4,515625 | 18,0625 | 8 |
| 3 | 11 | 1,265625 | 13,921875 | 33 |
| 4 | 11 | 0,015625 | 0,171875 | 44 |
| 5 | 6 | 0,765625 | 4,59375 | 30 |
| 6 | 6 | 3,515625 | 21,09375 | 36 |
| 7 | 7 | 8,265625 | 16,53125 | 14 |
| | 40 | | 74,375 | 165 |

$$\bar{X} = \frac{165}{40} = 4,125$$

$$\sigma^2 = \frac{74,375}{40}$$

$$\sigma^2 = 1,859375$$

$$\sigma = \sqrt{1,859375}$$

$$\sigma = 1,363589$$

PROBLEMA 4

Fórmula: $r = \frac{S_{xy}}{S_x \cdot S_y}$

| X | y | $x_i \cdot y_i$ | x^2 | y^2 | N=6 |
|----|-----|-----------------|-------|-------|-------------------------------------------------|
| 8 | 15 | 120 | 64 | 225 | $\bar{x} = 4,66666667$ |
| 7 | 19 | 133 | 49 | 361 | $y = 26$ |
| 6 | 25 | 150 | 36 | 625 | $S_{xy} = \frac{603 - 4,66666667 \times 26}{6}$ |
| 4 | 23 | 92 | 16 | 529 | |
| 2 | 34 | 68 | 4 | 1,156 | $100,5 - 121,333 = -20,83$ |
| 1 | 40 | 40 | 1 | 1,600 | |
| 28 | 156 | 603 | 170 | 4,496 | |

$$S_x = \frac{170 - 4,66666667^2}{6} = 28,333 - 21,777 = \sqrt{6,55} = 2,55$$

$$S_y = \frac{4,496 - 26^2}{6} = 749,333 - 676 = 73,33 = \sqrt{73,33} = 8,56$$

Reemplazamos la fórmula

$$r = \frac{-20,83}{2,55 \times 8,56} = -0,96$$

PREGUNTA 5

Fórmula: $X - \bar{x} = \frac{\sigma_{xy}}{\sigma_y^2} (y - \bar{y})$

| X | y | $y^2 \cdot f_i$ | $x \cdot y \cdot f$ |
|----|-----|-----------------|---------------------|
| 2 | 14 | 196 | 28 |
| 3 | 20 | 400 | 60 |
| 5 | 32 | 1024 | 160 |
| 7 | 42 | 1764 | 294 |
| 8 | 44 | 1936 | 352 |
| 25 | 152 | 5,320 | 894 |

$N = 5$

$\bar{x} = 5$

$\bar{y} = 30,4$

$\sigma_y^2 = \frac{5,320}{5} - 30,4^2 = 139,84$

$\sigma_{xy} = \frac{894}{5} - 5 \times 30,4 = 26,8$

$X - 5 = \frac{26,8}{139,84} \cdot (y - 30,4)$

$X - 5 = 0,192 (y - 30,4)$

$X = 0,192y - 0,76$