UDS

Mi Universidad

UNIVERSIDAD DEL SUROESTE

ESTADÍSTICA

-ESTIMACIÓN PUNTUAL

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Estimación Puntual

13/10/24

Cuantitativa

27, 27, 29, 24, 18, 16, 21, 20, 20, 28, 30, 19, 17, 23, 24

a) Calcular media b) calcular varianza c) proporción mayor o igual a 25

16, 17, 18, 19, 20, 20, 21, 23, 24, 24, 27, 27, 28, 29, 30 = 343 = 22.8
15

$16^2 = 256$ $17^2 = 289$ $18^2 = 324$
$19^2 = 361$ $20^2 = 400$ $20^2 = 400$
$21^2 = 441$ $23^2 = 529$ $24^2 = 576$
$24^2 = 576$ $27^2 = 729$ $29^2 = 841$
$28^2 = 784$
$30^2 = 900$

Media

$$\hat{N} = \bar{x} = \sum_{i=1} \frac{x_1 \cdot n_1}{n} = \frac{343}{15} = 22.8$$

Puntual de varianza

$$\sigma^2 = \hat{s}x^2 = \sqrt{(\Sigma x_i^2 \cdot n_i) - n \cdot \bar{x}^2} = \sqrt{\frac{8,135 - 15 \cdot 22.8}{15 - 1}} = \sqrt{\frac{8,135 - 7,797.6}{14}}$$

8,135

$$= \sqrt{\frac{337.4}{14}} = \sqrt{24.1}$$

Puntual de la proporción

$$\hat{p} = P\hat{x} = \frac{x}{n} = \frac{5}{14} = 0.3 \times 100 = 30\%$$