

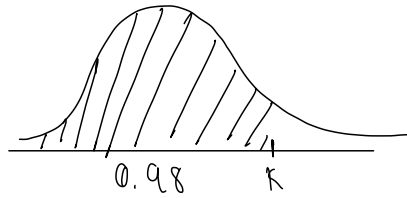
14) $\sigma = 9, P(X < K) = 0.98$

$P(X > K) = 1 - 0.98$

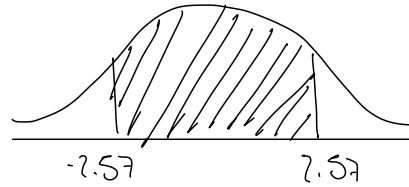
$P(X > K) = 0.02$

\Rightarrow De tablas

$K = 19.6790$ ~~1~~ Pagina 14



12) $P(-2.57 < Z < 2.57)$
 $= P(Z < 2.57) - P(-2.57 < Z)$
 $= 0.9949 - 0.0051$
 $= 0.9898$ ~~1~~ Pagina 4



13) $P(X_{14} < K) = 0.007$ $\sigma = 14$

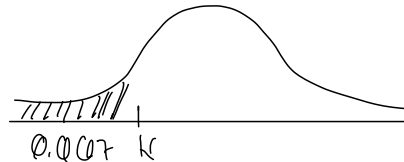
$P(X_{14} > -K) = 0.007$

Por tablas

$-K = 2.807$

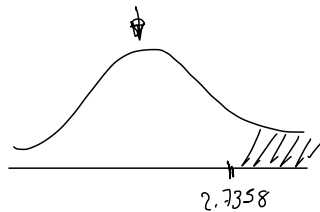
\Rightarrow

$K = -2.807$ ~~1~~ Pagina 10

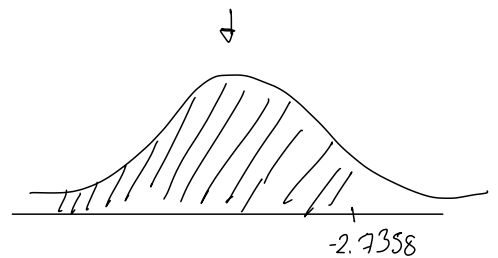


11) $\mu_1 = 70.5 / kg$ $\sigma_1 = 5.3$ $P(X > 85) = ?$

$P(Y > \frac{85 - 70.5}{5.3}) = P(Y > 2.7358) = P(Y < -2.7358) = 99.7\%$



$P(Y > 2.7358) = 0.3\%$ ~~1~~



Celaya Gonzalez David Alejandro

[Signature]

15) $n = 45$ estudiantes

Mexicanos = $0.2 = 20\%$

Venezolanos = $0.3 = 30\%$

Chilenos = $0.17 = 17\%$

Colombianos = $0.15 = 15\%$

Argentinos = $0.18 = 18\%$

$$P(M=10, C=7, V=12, A=8, C=8) = ?$$

$$P(M=10, C=7, V=12, A=8, C=8) = \frac{45!}{10! 7! 12! 8! 8!} (0.2)^{10} (0.15)^7 (0.3)^{12} (0.18)^8 (0.17)^8$$

$$P(M=10, C=7, V=12, A=8, C=8) = 6.0035 \times 10^{-4} = 0.06\%$$

16) Minutos

Moneda

X

Y

X^2

Y^2

XY

$n = 7$

94

696

8836

484416

65424

84

640

7056

409600

53760

120

700

14400

490000

84000

79

420

6241

176400

33180

96

650

9216

422500

62400

91

600

8281

360000

54600

89

405

7921

164025

36045

Σ

653

4111

61951

2506941

389409

$$SS_{xy} = 389409 - \frac{(653)(4111)}{7} = 5911.4286$$

$$SS_{xx} = 61951 - \frac{(653)^2}{7} = 1035.4286$$

$$SS_{yy} = 2506941 - \frac{(4111)^2}{7} = 92609.4286$$

$$B_1 = \frac{SS_{xy}}{SS_{xx}} = \frac{5911.4286}{1035.4286} = 5.7092$$

$$B_0 = \bar{Y} - B_1 \bar{X}$$

$$B_0 = 587.2857 - (5.7092)(93.2857)$$

$$B_0 = 54.699$$

$$\text{Ecuación} = y = 54.699 + 5.7092x$$

$$Cov = \frac{SS_{xy}}{n} = \frac{5911.4286}{7} = 844.4898$$

∴ Existe una dependencia directa

Correlación

$$r = \frac{SS_{xy}}{\sqrt{SS_{xx} SS_{yy}}} = \frac{5911.43}{\sqrt{(1035.4286)(92609.4286)}} = 0.6037$$

∴ Existe una dependencia fuerte

$$r^2 = \frac{S_{xy}^2}{SS_{xx} SS_{yy}} = \frac{(5911.43)^2}{(1035.4286)(92609.4286)} = 0.3644 = 36.44\%$$

∴ La variable x explica en un 36.44% a la variable y.

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