

# Intervalos de confianza al $100(1 - \alpha)\%$

Distribución	Parámetro	Casos	Intervalo
$N(\mu, \sigma^2)$	$\mu$	$\sigma$ conocida	$\bar{X} \pm z_{1-\alpha/2} \frac{\sigma}{\sqrt{n}}$
		$\sigma$ desconocida	$n < 30, \quad \bar{X} \pm t_{1-\alpha/2, n-1} \frac{S}{\sqrt{n}}; \quad n \geq 30, \quad \bar{X} \pm z_{1-\alpha/2} \frac{S}{\sqrt{n}}$
General  $(n \geq 30)$	$\mu$	$\sigma$ conocida	$\bar{X} \pm z_{1-\alpha/2} \frac{\sigma}{\sqrt{n}}$
		$\sigma$ desconocida	$\bar{X} \pm z_{1-\alpha/2} \frac{S}{\sqrt{n}}$
Bernoulli( $p$ )	$p$	$n \geq 30, np, nq \geq 5$	$\hat{p} \pm z_{1-\alpha/2} \sqrt{\frac{\hat{p}\hat{q}}{n}}, \quad \hat{p} = \bar{X}, \quad \hat{q} = 1 - \bar{X}$
$N(\mu, \sigma^2)$	$\sigma^2$	$\mu$ conocida	$\left[ \frac{nS_\mu^2}{\chi_{1-\alpha/2, n}^2}, \frac{nS_\mu^2}{\chi_{\alpha/2, n}^2} \right], \quad S_\mu^2 = \frac{1}{n} \sum_{i=1}^n (X_i - \mu)^2$
		$\mu$ desconocida	$\left[ \frac{(n-1)S^2}{\chi_{1-\alpha/2, n-1}^2}, \frac{(n-1)S^2}{\chi_{\alpha/2, n-1}^2} \right], \quad S^2 = \frac{1}{n} \sum_{i=1}^n (X_i - \bar{X})^2$
Poisson( $\lambda$ )	$\lambda$	$n \geq 30$	$\bar{X} \pm z_{1-\alpha/2} \sqrt{\frac{\bar{X}}{n}}$
$N(\mu_1, \sigma_1^2)$	$\mu_1 - \mu_2$	$\sigma_1, \sigma_2$ conocidas	$\bar{X}_1 - \bar{X}_2 \pm z_{1-\alpha/2} \sqrt{\frac{\sigma_1^2}{n_1} + \frac{\sigma_2^2}{n_2}}$
$N(\mu_2, \sigma_2^2)$		$\sigma_1 = \sigma_2$ desconocidas	$\bar{X}_1 - \bar{X}_2 \pm t_{1-\alpha/2, n_1+n_2-2} S_p \sqrt{\frac{1}{n_1} + \frac{1}{n_2}}, \quad S_p^2 = \frac{(n_1-1)S_1^2 + (n_2-1)S_2^2}{n_1+n_2-2}$
Indep.		$\sigma_1 \neq \sigma_2$ desconocidas	$\bar{X}_1 - \bar{X}_2 \pm t_{1-\alpha/2, \nu} \sqrt{\frac{S_1^2}{n_1} + \frac{S_2^2}{n_2}}, \quad \nu = \frac{\left( \frac{S_1^2}{n_1} + \frac{S_2^2}{n_2} \right)^2}{\left( \frac{S_1^2}{n_1} \right)^2 \frac{1}{n_1-1} + \left( \frac{S_2^2}{n_2} \right)^2 \frac{1}{n_2-1}}$

Distribución	Parámetro	Casos	Intervalo
$N(\mu_1, \sigma_1^2)$ $N(\mu_2, \sigma_2^2)$ Depend.	$\mu_D =$ $\mu_1 - \mu_2$	$\sigma_D$ conocida	$\bar{D} \pm z_{1-\alpha/2} \frac{\sigma_D}{\sqrt{n}}$
		$\sigma_D$ desconocida	$n < 30, \quad \bar{D} \pm t_{1-\alpha/2, n-1} \frac{S_D}{\sqrt{n}}, \quad n \geq 30, \quad \bar{D} \pm z_{1-\alpha/2} \frac{S_D}{\sqrt{n}}$
$N(\mu_1, \sigma_1^2)$ $N(\mu_2, \sigma_2^2)$ Indep.	$\frac{\sigma_1^2}{\sigma_2^2}$	$\mu_1, \mu_2$ conocidas	$\left[ \frac{S_{\mu_1}^2}{S_{\mu_2}^2} \frac{1}{F_{1-\alpha/2, n_1, n_2}}, \frac{S_{\mu_1}^2}{S_{\mu_2}^2} \frac{1}{F_{\alpha/2, n_1, n_2}} \right]$
		$\mu_1, \mu_2$ desconocidas	$\left[ \frac{S_1^2}{S_2^2} \frac{1}{F_{1-\alpha/2, n_1, n_2}}, \frac{S_1^2}{S_2^2} \frac{1}{F_{\alpha/2, n_1, n_2}} \right]$
Bernoulli( $p_1$ ) Bernoulli( $p_2$ ) Indep.	$p_1 - p_2$	$n_1, n_2 \geq 30$ $n_1 p_1, n_1 q_1 \geq 5$ $n_2 p_2, n_2 q_2 \geq 5$	$\hat{p}_1 - \hat{p}_2 \pm z_{1-\alpha/2} \sqrt{\frac{\hat{p}_1 \hat{q}_1}{n_1} + \frac{\hat{p}_2 \hat{q}_2}{n_2}}$ $\hat{p}_1 = \bar{X}_1, \quad \hat{q}_1 = 1 - \bar{X}_1; \quad \hat{p}_2 = \bar{X}_2, \quad \hat{q}_2 = 1 - \bar{X}_2,$