

Segundo examen parcial resuelto

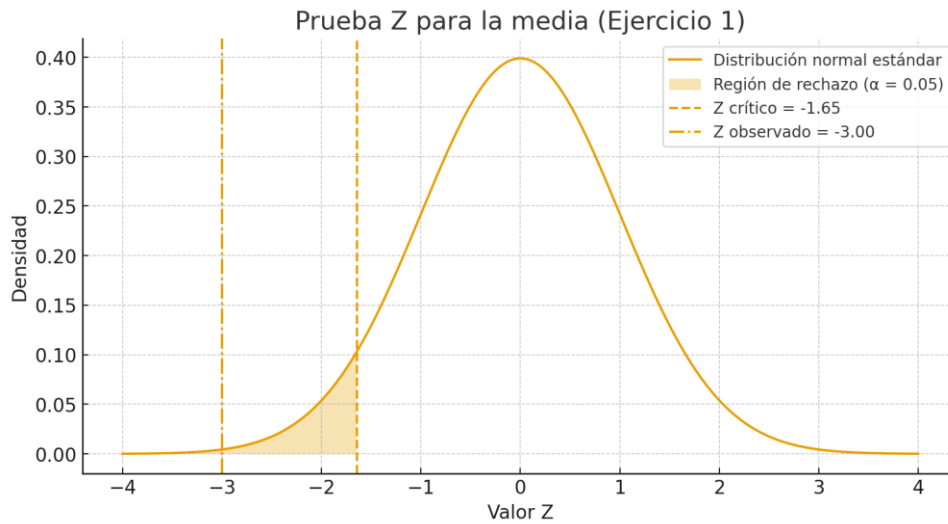
1. Prueba Z para la media

$$H_0: \mu = 500$$

$$H_1: \mu < 500$$

$$Z = (\bar{x} - \mu_0) / (\sigma / \sqrt{n})$$

$$Z = (497 - 500) / (5 / \sqrt{25}) = -3.00$$



2. Comparación de métodos (t de Student)

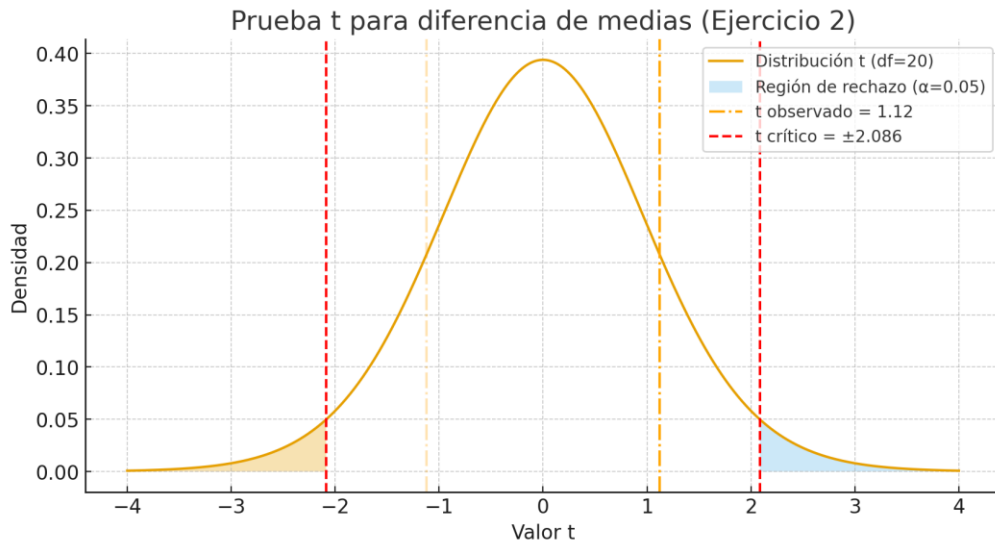
$$H_0: \mu_1 = \mu_2$$

$$H_1: \mu_1 \neq \mu_2$$

$$s_p^2 = [(n_1 - 1)s_1^2 + (n_2 - 1)s_2^2] / (n_1 + n_2 - 2)$$

$$t = (\bar{x}_1 - \bar{x}_2) / (s_p * \sqrt{(1/n_1 + 1/n_2)})$$

$$t = 1.12$$



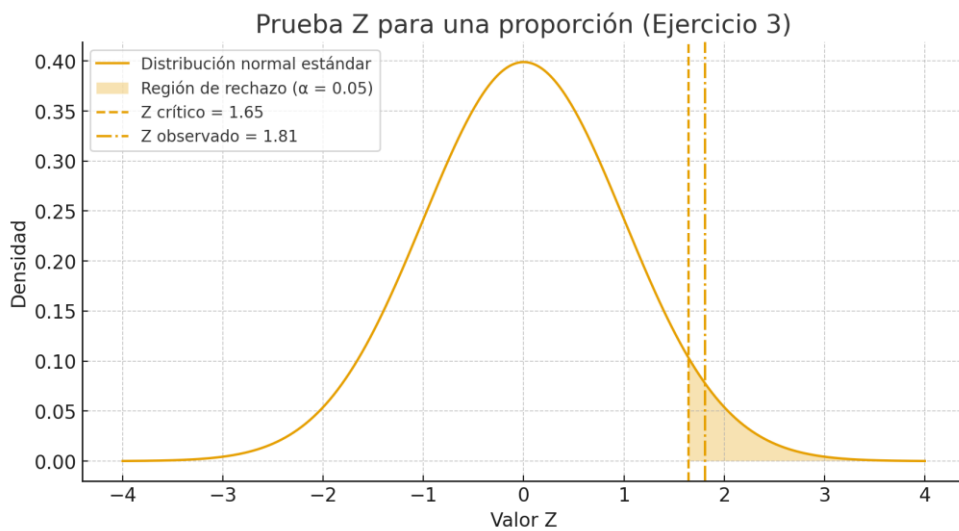
3. Prueba de proporciones

$$H_0: p = 0.08$$

$$H_1: p > 0.08$$

$$Z = (\hat{p} - p_0) / \sqrt{(p_0(1 - p_0)/n)}$$

$$Z = 1.81$$



4. Chi-cuadrada de independencia

$$\chi^2 = \Sigma (O - E)^2 / E$$

$$\chi^2 = 4.80 < 5.991 \rightarrow \text{no se rechaza } H_0$$

