

# Formulas de Muestreo simple

$$q = 1 - p$$

$$D = \frac{B^2}{4}$$

$$n = \frac{NPq}{(N-1)D + pq}$$

q: Probabilidad que no ocurra un evento.

P: Probabilidad que ocurra un evento.

B: Error de estimación.

N: Población.

n: Muestra

~~representación del 2022~~  
~~X 1000~~

Los errores de estimación aceptados son 5, 4, 3, 2, 1%.

Nota.

Nota: Cuando no existen datos anteriores para estimar el valor de P automáticamente toma el valor de 50%. Cuando existe una encuesta anterior P toma el valor de todas las personas que están de acuerdo con "X" proyecto.



$$D = \frac{B^2}{4}$$

$$N = 6500$$

$$P = 72\%$$

$$q =$$

$$B = 5\%$$

$$n =$$

$$D =$$

$$D = \frac{(0.05)^2}{4} = 0.000625$$

$$n = \frac{(6500)(0.72)(0.78)}{(6499)(0.000625)(0.72 \times 0.78)} = \underline{307.35}$$

$$6500 \times 72 \times 28 = \frac{1}{2} ((6499 \times 0.000625) + (0.72 \times 0.78)) \\ = 307.35$$

$$N = 7000$$

$$P = 52\%$$

$$q =$$

$$B = 2\%$$

$$n =$$

$$D = \frac{(0.02)^2}{4} = 0.0001$$

$$n = \frac{(7000)(0.52)(0.48)}{(6999)(0.0001)(0.52 \times 0.48)} = 1846.12$$

$$700 \times 52 \times 48 = \frac{1}{2} ((6999 \times 0.0001) + (0.52 \times 0.48)) = 1846.12$$

~~104.0000000000~~  
1000

$$N = 6300$$

$$P = 55\%$$

$$q =$$

$$B = 1\%$$

$$n =$$

$$D = \frac{(0.01)^2}{4} = 0.000025$$

$$n = \frac{(6300)(0.55)(0.45)}{(6299)(0.000025)(0.55 \times 0.45)} = \underline{3850.23}$$

$$6300 \times 55 \times 45 = \frac{1}{2} ((6299 \times 0.000025) + (0.55 \times 0.45)) = \underline{3850.23}$$

$$N = 2000$$

$$P_1 = 55\% = 0.55$$

$$q_1 = 1 - p = 1 - 0.55 = 0.45$$

$$B_1 = 3\% = 0.03$$

$$n_1 =$$

$$D = \frac{B^2}{4} = \frac{(0.03)^2}{4} = 0.000225$$

$$n = \frac{(2000)(0.55)(0.45)}{(1.999)(0.000225) + (0.55 \times 0.45)} = \underline{709.90}$$

$$2000 \times 0.55 \times 0.45 = \frac{2}{3} ((1999 \times 0.000225) + (0.55 \times 0.45)) = \underline{709.90}$$

$$P_2 = 62\% = 0.62$$

$$q_2 = 1 - p = 1 - 0.62 = 0.38$$

$$B_2 = 4\% = 0.04$$

$$n_2 =$$

$$D = \frac{(0.04)^2}{4} = 0.0004$$

$$n = \frac{(2000)(0.62)(0.38)}{(1.999)(0.0004) + (0.62 \times 0.38)} = \underline{455.17}$$

$$2000 \times 0.62 \times 0.38 = \frac{2}{3} ((1999 \times 0.0004) + (0.62 \times 0.38)) = \underline{455.17}$$

$$N = 5000$$

$$P = 50\% = 0.5$$

$$q = 1 - P = 1 - 0.5 = 0.5$$

$$B = 5\% = 0.05$$

$$\lambda =$$

$$D = \frac{(0.05)^2}{4} = 0.000625$$

$$\lambda = \frac{(5000)(0.5)(0.5)}{(4999)(0.000625) + (0.5 \times 0.5)} = \underline{370.43}$$

$$5000 \times 5\% \times 5\% = ((4999 \times 0.000625) + (0.5 \times 0.5)) = \underline{370.43}$$

~~October 2022~~  
~~1500~~