

Graciela Jaqueline Orantes Sosa 4^º

① $N = 18000$ $D = \frac{(0.02)^2}{4} = 0.0001$
 $p_1 = 65.7\% = 0.657$
 $q_1 = 1 - p = 0.343$ $n = \frac{(18000)(0.657)(0.343)}{(17,999)(0.0001) + (0.657)(0.343)} = 2003$
 $B_1 = 2\%$
 $n_1 = 2,003$
 $p_2 = 77\% = 0.77$ $D = \frac{(0.04)^2}{4} = 0.0004$
 $q_2 = 1 - p = 0.23$
 $B_2 = 4\%$ $n = \frac{(18000)(0.77)(0.23)}{(17,999)(0.0004) + (0.77)(0.23)} = 433$
 $n_2 = 433$

② $N = 55000$ $D = \frac{(0.02)^2}{4} = 0.0001$
 $p_1 = 55.8\% = 0.558$
 $q_1 = 1 - p = 0.442$ $n = \frac{(55000)(0.558)(0.442)}{(54,999)(0.0001) + (0.558)(0.442)} = 2361$
 $B_1 = 2\%$
 $n_1 = 2361$ $D = \frac{(0.03)^2}{4} = 0.000225$
 $p_2 = 62.5\%$
 q_2 $n = \frac{(55000)(0.625)(0.375)}{(54,999)(0.000225) + (0.625)(0.375)} = 1023$
 $B_2 = 3\%$
 $n_2 = 1023$ $D = \frac{(0.02)^2}{4} = 0.0001$

③ $N = 50000$
 $p_1 = 56.7\% = 0.567$ $n = \frac{(50000)(0.567)(0.433)}{(49,999)(0.0001) + (0.567)(0.433)} = 2341$
 $q_1 = 1 - p = 0.433$
 $B_1 = 2\%$
 $n_1 = 2341$ $D = \frac{(0.04)^2}{4} = 0.0004 = 618$
 $p_2 = 50\% = 0.5$ $n = \frac{(50000)(0.5)(0.5)}{(49,999)(0.0004) + (0.5)(0.5)}$
 $q_2 = 1 - p = 0.5$
 $B_2 = 4\%$
 $n_2 = 618$

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④ $N = 35200$

$p_1 = 72.5\% = 0.725$

$q_1 = 1 - p = 0.275$

$B_1 = 2\%$

$n_1 = 1887$

$p_2 = 30\% = 0.3$

$q_2 = 1 - p = 0.7$

$B_2 = 1\%$

$n_2 = 7788$

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

$$n = \frac{(35200)(0.725)(0.275)}{(37,999)(0.0001) + (0.725)(0.275)} = 1887$$

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

$$n = \frac{(35200)(0.3)(0.7)}{(37,999)(0.000025) + (0.3)(0.7)} = 7788$$

⑤ $N = 58000$

$p_1 = 30\% = 0.3$

$q_1 = 50\% = 0.5$

$B_1 = 5\%$

$n_1 = 398$

$p_2 = 74\% = 0.74$

$q_2 = 1 - p = 0.26$

$B_2 = 24\%$

$n_2 = 1863$

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

$$n = \frac{(58000)(0.3)(0.7)}{(37,999)(0.000625) + (0.3)(0.7)} = 398$$

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

$$n = \frac{(58000)(0.74)(0.26)}{(37,999)(0.0001) + (0.74)(0.26)} = 1863$$

⑥ $N = 17000$

$p_1 = 65.7\% = 0.657$

$q_1 = 1 - p = 0.343$

$B_1 = 2\%$

$n_1 = 1990$

$p_2 = 77\% = 0.77$

$q_2 = 23\%$

$n_2 = 432$

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

$$n = \frac{(17000)(0.657)(0.343)}{(16,999)(0.0001) + (0.657)(0.343)} = 1990$$

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

$$n = \frac{(17000)(0.77)(0.23)}{(16,999)(0.0004) + (0.77)(0.23)} = 432$$