

Step 4

Proposed law

$p \rightarrow$ for
 $1-p \rightarrow$ against

$n \rightarrow$ sample population

Use central limit theorem

Determine how large n should be for
the estimate to be 95%

Assume $p = 0.5$

$E =$ margin of error $= 0.01$

$\alpha = 1 - 95\% = 0.05$

$\alpha/2 = 0.025$

$z_{\alpha/2} = z_{0.025} = 1.96$

Sample Size $= n = (z_{\alpha/2}/E)^2 \cdot p \cdot (1-p)$

$n = (1.96/0.01)^2 \cdot 0.5 \cdot 0.5 = 9604$

$n = 9604$