Exercise: Satellite Phone Ownership

➢ A researcher wishes to estimate the proportion of executives who own a satellite phone.

➢ She wants to be 90% confident and be accurate within 5% of the true proportion.

➢ Find the minimum sample size necessary.

Exercise: Satellite Phone Ownership…

Since there is no prior knowledge of $\hat{p}$, statisticians assign the values $\hat{p} = 0.5$ and $\hat{q} = 0.5$. The sample size obtained by using these values will be large enough to ensure the specified degree of confidence.

$$n = \hat{p}\hat{q}\left(\frac{z_{\alpha/2}}{E}\right)^2 = (0.50)(0.50)\left(\frac{1.65}{0.05}\right)^2 = 272.25$$

The researcher should ask at least **273** executives.