

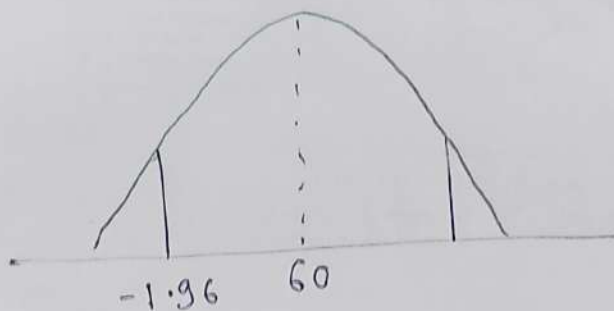
- Q. A car company believes that the percentage of residents in city ABC that own a vehicle is 60% or less. A sales manager disagree with this. He conducts a hypothesis testing surveying 250 residents & found that 170 responded yes to owning a vehicle
- State the Null & alternate
 - At 10% significance level is there enough evidence to support the idea that vehicle ownership in city ABC 60% or less.

Assignment - Car company

$$n = 250, x = 170, \alpha = 0.1$$

$$H_0 = \mu = 60\%$$

$$H_1 = \mu \neq 60\%$$



$$\hat{p} = \frac{170}{270} = 0.629$$

$$q_0 = 1 - p_0$$

$$= 1 - 0.6$$

$$= 0.4$$

$$Z_{\text{test}} = \frac{\hat{p} - p_0}{\sqrt{\frac{p_0 q_0}{n}}} = \frac{0.629 - 0.6}{\sqrt{\frac{0.6 \times 0.4}{250}}} = \frac{0.029}{0.030} = 0.96$$

$$= 0.96 > -1.96$$

Null hypothesis is Accepted