Assignment Q.

A Car Company believes that % of residents in city A that owns a vehicle is 60% or less - A sales manager disagrees with this. he conducts a hypothesis testing surveying 250 residents and found that 170 responded yes to owning a vehicle.

a) State the Null & Alternate.

b) At 10% significan level, is there enough evidence to support the idea that valve vehicle ownership in city ABC is 60% or less?.

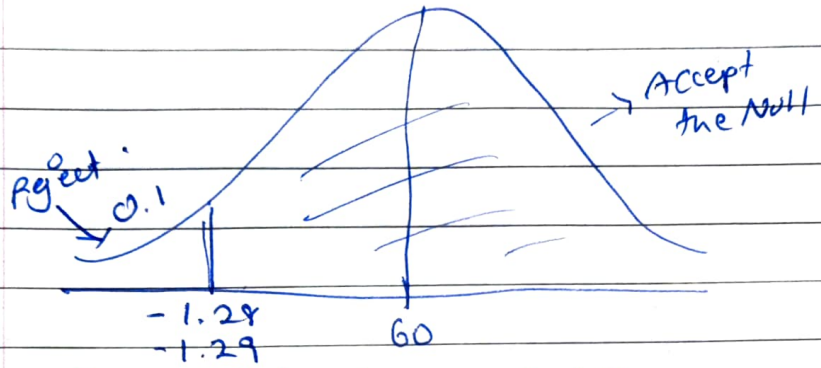
$P = 0.6$ Null $H_0 : P_0 \geq 60$ $n = 250$

Alternate $H_1 : P_1 < 60$

$x = 170$ $\hat{p} = \frac{x}{n} = \frac{170}{250} = 0.68$.

$P_0 \quad q_0 = 1 - P_0 = 1 - 0.6 = 0.4$

$\alpha = 0.1 \qquad C.I = 90.$



Degree of freedom = $n-1$ =

$$z = \frac{\hat{p} - p_0}{\sqrt{\frac{p_0 q_0}{n}}}$$

$$= \frac{0.68 - 0.6}{\sqrt{\frac{0.6 \times 0.4}{250}}}$$

$$= 0.08 \times 0.031$$

$$= 0.00247.$$

Accept the null hypothesis.

$0.00247 > -1.29$ or -1.28

ownership is more than 60%.