

I - Just with proportions

- ① A Tech Company believes that the percentage of residents in town $\times \frac{1}{2}$ that owns a cellphone is 70%. A marketing manager believes that this value to be different. He conducts a survey of 200 individuals and finds that 130 responded to a cellphone.
- Q. state Null and alternate hypothesis
- Q. At a 95% C.T. is there enough evidence to reject the Null hypothesis?

→ Null hypothesis

H_0 proportion = 70%

H_1 proportion \neq 70%

$$n = 200$$

$$x = 130$$

10

$$\text{Proportion } p_0 = \frac{130}{200} = 0.65$$

$$q_0 = 1 - 0.65 = 0.45$$

$$(I=95\%). \alpha = 0.05$$

Z Test for Proportion



-1.96 1.96

Rejection
area