

$$12.1 \quad H_0: \mu = .30$$

$$H_a: \mu > .30$$

$$12.2 \quad H_0: p = .50$$

$$H_a: p > .50$$

$$Z \text{ value} = \frac{0.64 - 0.5}{\sqrt{\frac{0.25}{100}}} = 2.8$$

$$1 - 0.9974 = 0.0026$$

$$12.3 \quad H_0: \text{The proportions are equal}$$

H_a : your proportion is greater than your friends
so, if p_1 : your friends proportion

p_2 : your proportion

$$H_0: p_1 = p_2$$

$$H_a: p_1 < p_2$$

12.4 p_e : proportion people existing med works for

p_n : proportion people new med works for

$$H_0: p_e = p_n$$

$$H_a: p_e < p_n$$