

Hypothesis Testing / Part II
 Difference of the Means (μ)
 - when $n \geq 30$

May 5-8:16 AM

$H_0: \mu_1 = \mu_2$ $\mu_1 \geq \mu_2$ $\mu_1 \leq \mu_2$
 $H_a: \mu_1 \neq \mu_2$ $\mu_1 < \mu_2$ $\mu_1 > \mu_2$
 (in calculator, use sign of H_a)
 two-tailed test left-tailed test right-tailed test

May 5-8:24 AM

When we reject H_0 , then we can support H_a .

$P\text{value} \leq \alpha$ $\alpha = \text{level of significance}$
 Reject H_0 / Support H_a (given in the problem)
 $P\text{value} > \alpha$
 Fail to reject H_0

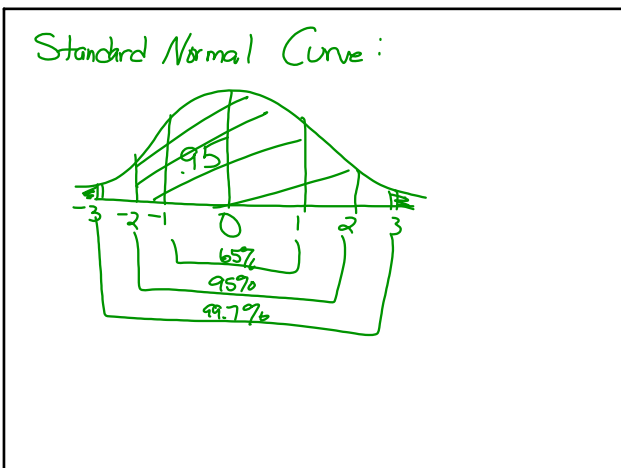
May 5-8:28 AM

Support a claim - different - H_a

$H_0: \mu_1 = \mu_2$
 $H_a: \mu_1 \neq \mu_2$ (Support)

two-tailed test
 $\alpha = .10$ (10%)
 (level of significance)
 $n \geq 30 \therefore$ normal (distribution)
 $z = \pm 2.786$
 $P\text{value} = .0053$
 $.0053 < .10 \therefore$ Reject H_0 Support H_a
 There is sufficient evidence at the 10% level of significance to support the claim that the mean braking distance is different for both types of tires.

May 5-8:33 AM



May 5-8:45 AM

$H_0: \mu_1 \leq \mu_2$
 $H_a: \mu_1 > \mu_2$ (support?)

$P\text{value} < \alpha$
 $.0013 < .025 \therefore$ Reject H_0 Support H_a
 There is sufficient evidence at the 2.5% level of sig to support one claim that children watched more TV in 1991 than now.

Problems #23 - ACT 30

Apr 23-10:06 AM