

1. CLAIM: LOWER THAN 59  
" $<$ "  
 $\mu = 59$   
 $n = 15$   
 $H_0: \mu \geq 59$  ( $\leq, \geq, =$ )  
 $H_1: \mu < 59$  ( $<, >, \neq$ )

$\bar{x} = 58$   
 $s = 1.2$   
 $\alpha = 0.05$

$$t_0 = \frac{\bar{x} - \mu_0}{\frac{s}{\sqrt{n}}}$$

$$t_0 = \frac{(58 - 59)}{\left(\frac{1.2}{\sqrt{15}}\right)}$$

$$t_0 = -3.23$$

LOOKUP 3.23 WITH  $DF = 14$

$\alpha = 0.05$        $.0005 < p < .005$

CONC: REJECT  $H_0$   
ACCEPT  $H_1$   
ACCEPT CLAIM

2. CLAIM: DIFF THAN 59  
" $\neq$ "  
 $\mu = 59$   
 $n = 35$   
 $H_0: \mu = 59$   
 $H_1: \mu \neq 59$

$\bar{x} = 63$   
 $s = 2.3$   
 $\alpha = .01$   
 $DF = 34$

$$t_0 = \frac{\bar{x} - \mu_0}{\frac{s}{\sqrt{n}}}$$

$$t_0 = \frac{(63 - 59)}{\left(\frac{2.3}{\sqrt{35}}\right)}$$

$$t_0 = 10.29$$

LOOKUP 10.29 WITH  $DF = 34$

$p < 0.0005$   
 $\alpha = .01$        $p < 0.0010$

CONC: REJECT  $H_0$   
ACCEPT  $H_1$   
ACCEPT CLAIM