

4.

d.  $p\text{-value} = .084, \alpha = .1$ 

- The value of  $p$  ( $p\text{-value}$ ) is  $.084$  which is a greater value than  $\alpha = .1$ . So we accept the null hypothesis  $H_0$ .

e.  $p\text{-value} = .039, \alpha = .01$ 

- The value of  $p$  ( $p\text{-value}$ ) is  $.039$  which is greater than value of  $\alpha = .01$  so accept the null hypothesis.

f.  $p\text{-value} = .218, \alpha = .1$ 

- The value of  $p$  ( $p\text{-value}$ ) is  $.218$  which is a greater value than  $\alpha = .1$ . So, we can accept the null hypothesis  $H_0$ .

5.

The alternative hypothesis was chosen to be  $H_a: \mu > 100$  rather than  $\mu < 100$  because the inspection team wants sufficient proof to show that the mean strength of welds exceeds  $100 \text{ lb/in}^2$ .