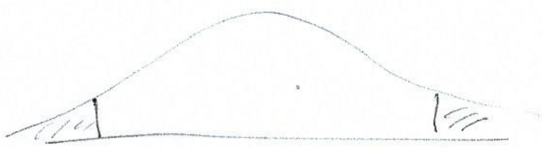
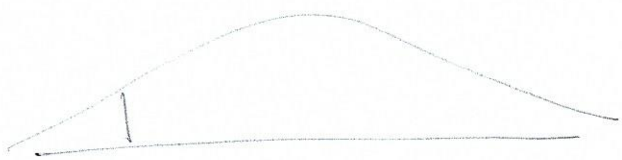
08/08/2019

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



$-t_\alpha$ $\quad$ $t_\alpha$

$-t_\alpha < t_\alpha$ or $t_s > t_\alpha$



$-t_\alpha$

$t_s < -t_\alpha$ $\longrightarrow$ Reject $H_0$

$t_\alpha$

$t_s > t_\alpha$

Reject $H_0$

$H_0: \mu = 1.8$

$H_1: \mu > 1.8$

$\mu_{\bar{x}} = 1.8$

$\bar{x} = 1.911$

$n = 62$

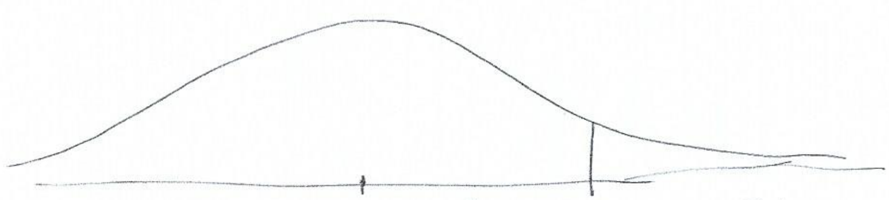
$s = 1.065$

$\alpha = 0.05$

$d.f = 61$

$$t_s = \frac{(1.911 - 1.8)}{\left(\frac{1.065}{\sqrt{62}}\right)}$$

$= 0.8207$



$t_s = 0.8207$ $\quad t_\alpha = 1.671$

$t_s < t_\alpha$, fail to reject $H_0$.

The claim that the mean weight of dise plastic in a houschold is greater than 1.8 lb is false. The test is not significant.

$H_0: \mu = 98.6$

$H_1: \mu \neq 98.6$

$\mu_{\bar{x}} =$

$\bar{x} = 98.2$

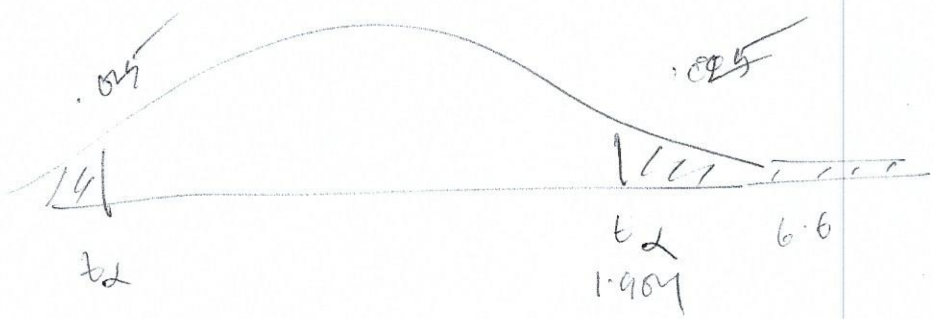
$n = 106$

$s = 0.62$

$\alpha = 0.05$

$df = 105$

$$t_s = \frac{98.2 - 98.6}{\left(\frac{0.62}{\sqrt{106}}\right)} = -6.6423$$




For two tail test, split your $\alpha/2$.

Since $t_s$ falls in the critical region we reject $H_0$.

there sufficient evidence to support the claim that the mean body temp is different than 98.6F.

The test is significant.

$H_0: \mu = 65$

$H_1: \mu < 65$

$\mu_{\bar{x}} = 65$

$\bar{x} = 60.7$

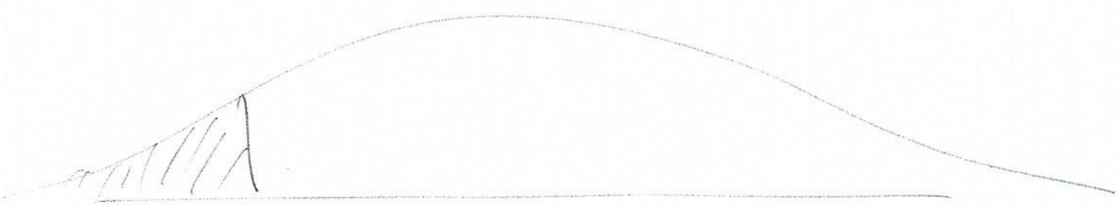
$n = 12$

$s = 4.08$

$\alpha = 0.05$

$df = 11$

$$t_s = \frac{(60.7 - 65)}{\left(\frac{4.08}{\sqrt{12}}\right)} = -3.651$$



$t_s = 3.651$ $t_\alpha = -1.796$

Reject $H_0$

Sufficient evidence to support the claim that the average speed on I-280 near Cupertino, CA is below 65mph.

The test is significant.