

Data: 63, 63, ~~64~~, 65, 66, 69, 70, 70, 71

degree of freedom = 9 (Given)

$\mu = 65$ (Given)

$N = 9$

Null Hypothesis (H_0): $\mu = 65$

Alternate Hypothesis (H_1): $\mu \neq 65$

$$\therefore \bar{x} = \frac{601}{9} = 66.77 \approx \underline{\underline{66.8}}$$

x_i	$D_i = x_i - 66.8$	D_i^2
62	-3.8	14.44
63	-3.8	14.44
64	-2.8	7.84
65	-1.8	3.24
66	-0.8	0.64
69	2.2	4.84
70	3.2	10.24
70	3.2	10.24
71	4.2	17.64

$$\Sigma = -0.2 \quad \Sigma (x_i - \bar{x})^2 = 83.56$$

$$S = \frac{\Sigma (x_i - \bar{x})^2}{df} = \frac{83.56}{9} = \sqrt{9.28} \approx \sqrt{9.3} \quad [df=9]$$
$$= 3.04 \quad [Given]$$

$$t = \frac{\bar{x} - \mu}{S/\sqrt{n}} = \frac{66.8 - 65}{\sqrt{9.3}/\sqrt{9}} = \frac{1.8 \times 3}{\sqrt{9.3}} = 1.77$$

$t_{0.05}$ at $df = 9$ is 2.262 (Given)

$\therefore t = 1.77 < 2.262$ so, H_0 is accepted.