

1 (a) $n = 60$ $\bar{x} = 62.7$

$s = 19.5$ $n = 15$

(b) $H_0: \mu = 60$ (claim)

$H_1: \mu \neq 60$

3 (c) Two-tailed. It does not specify the direction

$$t = \frac{\bar{x} - \mu}{\frac{s}{\sqrt{n}}}$$

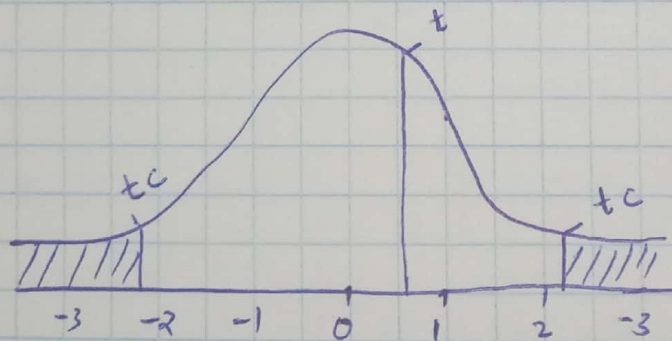
$t = 0.54$

5 (a) $\alpha = 0.05$

(b) $df = 15 - 1 = 14$

$t_c = -2.145, 2.145$

(c)



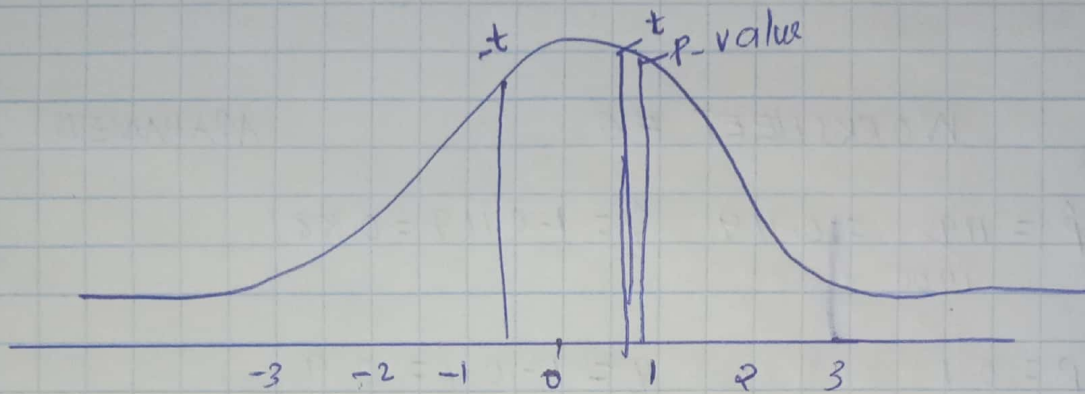
(d) Do not reject the null hypothesis

(e) There is not sufficient evidence to reject the claim that the times are from a population with mean equal to 60 seconds

6. (a) $\alpha = 0.05$

(b) $p\text{-value} = 0.6002$

(c)



(d) Fail to reject null hypothesis

(e) There is not sufficient evidence to reject the claim that the times are from a population with a mean equal to 60 seconds.

7.

$$E = \cancel{t_{\alpha/2}} \quad E = t_{\alpha/2} \cdot \frac{s}{\sqrt{n}} = 2.145 \left(\frac{19.5}{\sqrt{15}} \right) = 10.8$$

$$= 51.901 < \mu < 73.499$$

The claim is true

8. Yes