T-test Assignment.

1. $\mu = 72$ beats/min

$n = 25$

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

after 6 month, $\mu = 69$ beats/min

$\sigma = 6.5$

$$t = \frac{69 - 72}{\frac{6.5}{\sqrt{25}}} = -2.3$$

for 0.05 significance and df = 24 $\Rightarrow$ 2.064

Since t does not lie greater than 2.064 there is significant variation of ufitness with workout.

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2. $n = 30$

$\mu = 15$

$\bar{x} = 17$

$\sigma = 5.5$

$$t = \frac{17 - 15}{\frac{5.5}{\sqrt{30}}} = 2$$

0.05 significance and df = 29 $\Rightarrow$ 2.045
for two-tailed

If two-tailed test, accept the null hypothesis since t value is within range.

If one-tailed then $t_{sig} \Rightarrow 1.699$, hence reject the null.