

Supply the following in the spaces provided for each problem:

1. State the ~~research question~~ ^{NULL HYPOTHESIS} to reflect if it is a 1- or 2-tail test.
2. Calculate the t- value.
3. Determine the *critical* value (from the table) at the .05 level.
4. Illustrate the problem on the normal curve.
5. State your conclusion in a complete sentence.

HINT: Depending on the problem, you will first need to calculate the means and variances or calculate the differences and squared differences.

A. After working at a Fitness Center for over a year, you have noticed that there are clients who use a M-W-F schedule and a Tu-Th-Sa schedule. You are curious if these two groups are of the same fitness level. To arrive at your answer you will compare their strength indexes. These values for the clients in each schedule are provided below.

M-W-F	T-T-S
50	55
60	62
51	47
74	62
44	45
63	70
69	62
57	55
60	51
61	64

$\bar{X}_1 = 58.9$ $\bar{X}_2 = 57.3$
 $S_1 = 8.49$ $S_2 = 7.62$

$df = 10 + 10 - 2 = 18$

~~Research Question:~~ ^{NULL HYPOTHESIS} _____

Calculated t-value: _____

Critical t-value: _____

Conclusion: _____



B. You are convinced that your athletes are in better shape cardiovascularly after a 3-week preseason session than before it. You can use the players' times (in minutes) for the 1½ mile run presented below to test your hypothesis.

Before	After	D	D^2
12.0	11.4		
11.4	11.5		
13.2	12.5		
12.6	12.1		
12.9	12.4		
11.9	11.9		
12.3	11.8		
12.5	12.0		

$\sum D =$ $\sum D^2 =$

$\bar{X} = 12.35$ 11.95
 $sd = .58$ $.39$ $r = .895$

jh 07

~~Research Question:~~ ^{NULL HYPOTHESIS} _____

Calculated t-value: _____

Critical t-value: _____

Conclusion: _____

