Question 2

A study was conducted to compare the resting pulse rates of college smokers and non-smokers. The data for a randomly selected group is summarized in the table below. Pulse rates were normally distributed within each group.

Group	Sample Size (n)	Average Pulse Rate (bpm)	Standard Deviation of Scores
Smokers	26	80	5
Non-Smokers	32	74	6

(1 point possible)

2a. What is the appropriate method for analyzing this data?

- Paired T-Test
- Independent T-Test ✔
- Dependent T-Test

Help

Hide Answer *You have used 0 of 1 submissions*

(1 point possible)

2b. What is the **alternative hypothesis** for this test if the researchers expect smoking to raise pulse rates?

- $\mu_{smokers} > \mu_{non\text{-}smokers}$ ✔
- $\mu_{smokers} < \mu_{non\text{-}smokers}$
- $\mu_{smokers} = \mu_{non\text{-}smokers}$

Hide Answer *You have used 0 of 1 submissions*

(1 point possible)

2c. How many **degrees of freedom** should we use for this test if we are to estimate rather than use a calculator?

Answer: 25

Hide Answer *You have used 0 of 1 submissions*

Help

(1 point possible)

2d. What is **t-critical**, assuming α=0.05? *(Round to 3 decimal places.) Use your answer to 2c. to help.*

Answer: 1.708

Hide Answer *You have used 0 of 1 submissions*

(1 point possible)

2e. Calculate the **standard error**. *(Round to 2 decimal places.)*

Answer: 1.44

Hide Answer *You have used 0 of 1 submissions*

(1 point possible)

2f. Calculate the **test statistic**. *(Round to 2 decimal places, and use rounded values from previous answers.)*

Help

Answer: 4.15

Hide Answer *You have used 0 of 1 submissions*

(1 point possible)

2g. Is there evidence to suggest that the pulse rate of smokers is higher on average than the pulse rate of non-smokers?

- Yes ✔
- No

Hide Answer *You have used 0 of 1 submissions*

(1 point possible)

2g. How would the p-value be reported in your conclusion?

- ○ $p < 0.05$ ✔
- ○ $p > 0.05$

Hide Answer *You have used 0 of 1 submissions*

Help

Help