



[Courseware](#) [Course Info](#) [Discussion](#) [Syllabus](#) [Download R and RStudio](#) [R Tutorials](#) [Readings](#) [Contact Us](#)

[Progress](#) [Office Hours](#) [Community](#)

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

[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?

- ☒ $\mu_{\text{smokers}} > \mu_{\text{non-smokers}}$ ✓
- ☐ $\mu_{\text{smokers}} < \mu_{\text{non-smokers}}$
- ☐ $\mu_{\text{smokers}} = \mu_{\text{non-smokers}}$

[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 $\alpha=0.05$? (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?

4 of 26

02/27/2015 07:23 PM

☐ $p < 0.05$ ✓☐ $p > 0.05$

Help

Hide Answer

You have used 0 of 1 submissions

EdX offers interactive online classes and MOOCs from the world's best universities. Online courses from MITx, HarvardX, BerkeleyX, UTx and many other universities. Topics include biology, business, chemistry, computer science, economics, finance, electronics, engineering, food and nutrition, history, humanities, law, literature, math, medicine, music, philosophy, physics, science, statistics and more. EdX is a non-profit online initiative created by founding partners Harvard and MIT.


© 2015 edX Inc.

EdX, Open edX, and the edX and Open edX logos are registered trademarks or trademarks of edX Inc.

About edX

[About](#)[News](#)[Contact](#)[FAQ](#)[edX Blog](#)[Donate to edX](#)[Jobs at edX](#)

Follow Us

 [Twitter](#) [Facebook](#) [Meetup](#) [LinkedIn](#) [Google+](#)

