



Week 3 Lab



5/7 points earned (71%)

You haven't passed yet. You need at least 80% to pass.
Review the material and try again! You have 3 attempts every 8 hours.

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1 / 1
points

1.

There are 1,000 cases in this data set, what do the cases represent?

- ☐ The fathers of the children
- ☐ The hospitals where the births took place
- ☒ The births



Correct

- ☐ The days of the births



1 / 1
points

2.

How many mothers are we missing weight gain data from?

- ☐ 0
- ☐ 13
- ☒ 27

Correct

☐ 31



1 / 1
points

3.

Make side-by-side boxplots of habit and weight. Which of the following is false about the relationship between habit and weight?



Both distributions are extremely right skewed.

Correct



Range of birth weights of babies born to non-smoker mothers is greater than that of babies born to smoker mothers.



The IQRs of the distributions are roughly equal.



Median birth weight of babies born to non-smoker mothers is slightly higher than that of babies born to smoker mothers.



1 / 1
points

4.

What are the hypotheses for testing if the average weights of babies born to smoking and non-smoking mothers are different?



$H_0 : \mu_{smoking} = \mu_{non-smoking}$

$H_A : \mu_{smoking} > \mu_{non-smoking}$



$H_0 : \mu_{smoking} = \mu_{non-smoking}$

$H_A : \mu_{smoking} \neq \mu_{non-smoking}$

Correct





$$H_0 : \bar{x}_{smoking} = \bar{x}_{non-smoking}$$

$$H_A : \bar{x}_{smoking} \neq \bar{x}_{non-smoking}$$



$$H_0 : \bar{x}_{smoking} = \bar{x}_{non-smoking}$$

$$H_A : \bar{x}_{smoking} > \bar{x}_{non-smoking}$$



$$H_0 : \mu_{smoking} \neq \mu_{non-smoking}$$

$$H_A : \mu_{smoking} = \mu_{non-smoking}$$



0 / 1
points

5.

Change the type argument to "ci" to construct and record a confidence interval for the difference between the weights of babies born to smoking and non-smoking mothers. Which of the following is the best interpretation of the interval?



We are 95% confident that babies born to nonsmoker mothers are on average 0.05 to 0.58 pounds lighter at birth than babies born to smoker mothers.



We are 95% confident that the difference in average weights of babies whose moms are smokers and nonsmokers is between 0.05 to 0.58 pounds.



We are 95% confident that the difference in average weights of babies in this sample whose moms are smokers and nonsmokers is between 0.05 to 0.58 pounds.



This should not be selected



We are 95% confident that babies born to nonsmoker mothers are on average 0.05 to 0.58 pounds heavier at birth than babies born to smoker mothers.



0 / 1
points

6.

Calculate a 99% confidence interval for the average length of pregnancies (`weeks`). Note that since you're doing inference on a single population parameter, there is no explanatory variable, so you can omit the `x` variable from the function. Which of the following is correct interval?

☒ (6.9779 , 7.2241)



This should not be selected

☐ (38.1526 , 38.5168)

☐ (38.0892 , 38.5661)

☐ (38.0952 , 38.5742)



1 / 1
points

7.

Now, a non-inference task: Determine the age cutoff for younger and mature mothers. Use a method of your choice. What is the maximum age of a younger mom and the minimum age of a mature mom, according to the data?

☐ The maximum age of younger moms is 33 and minimum age of mature moms is 34.

☐ The maximum age of younger moms is 35 and minimum age of mature moms is 36.

☒ The maximum age of younger moms is 34 and minimum age of mature moms is 35.



Correct

☐ The maximum age of younger moms is 32 and minimum age of mature moms is 33.

