

Week 3 Lab

Quiz, 7 questions

6/7 points (85.71%)



Congratulations! You passed!

Next Item



1 / 1
point

1.

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

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

Correct



1 / 1
point

2.

How many mothers are we missing weight gain data from?

- ☐ 0
- ☐ 13
- ☒ 27

Correct

- ☐ 31

Week 3 Lab^{1 / 1} point

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3.

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

- ☐ 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.
- ☒ Both distributions are extremely right skewed.

Correct

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

1 / 1
point

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

- ☐ $H_0 : \bar{x}_{smoking} = \bar{x}_{non-smoking}$
 $H_A : \bar{x}_{smoking} \neq \bar{x}_{non-smoking}$
- ☐ $H_0 : \bar{x}_{smoking} = \bar{x}_{non-smoking}$
 $H_A : \bar{x}_{smoking} > \bar{x}_{non-smoking}$

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

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

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1 / 1
point

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.
- ☒ 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.

**Correct**0 / 1
point

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?

- ☐ (38.0892 , 38.5661)
- ☐ (38.0952 , 38.5742)
- ☒ (38.1526 , 38.5168)

**This should not be selected**

(6.9779 , 7.2241)

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point

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 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.

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

