

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

1 / 1 point

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

✓ Correct

2. How many mothers are we missing weight gain data from?

1 / 1 point

- ☐ 0
- ☐ 13
- ☒ 27
- ☐ 31

✓ Correct

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.
- ☐ The IQRs of the distributions are roughly equal.
- ☐ Range of birth weights of babies born to non-smoker mothers is greater than that of babies born to smoker mothers.
- ☐ Median birth weight of babies born to non-smoker mothers is slightly higher than that of babies born to smoker mothers.

✓ Correct

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

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

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

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

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

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

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

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

✓ Correct

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

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)
- ☐ (6.9779 , 7.2241)
- ☐ (38.1526 , 38.5168)

 **Correct**

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 34 and minimum age of mature moms is 35.
- ☐ The maximum age of younger moms is 35 and minimum age of mature moms is 36.
- ☐ The maximum age of younger moms is 33 and minimum age of mature moms is 34.
- ☐ The maximum age of younger moms is 32 and minimum age of mature moms is 33.

 **Correct**