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Reflect on the Question

Analyze the Data

Draw Conclusions

## Primary Research Question

The average American adult man weighs 190 pounds. Do professional bull riders weigh the same?

## Conduct the Analysis in R

1. Type or copy the script from the the Prepare for the Analysis section into the Script window of R.
2. Select the portion of the code you wish to run, then press "ctrl+ enter."
3. Output can be found in the Console window.

(1 point possible)

1. Did the histogram of the bull-riders weights show any significant skew that would **violate** the assumption of Normality?

☐ Yes☒ No

Help

**THE DISTRIBUTION IS ROUGHLY NORMAL, ALBEIT WITH A SLIGHT RIGHT SKEW.**

Hide Answer

*You have used 0 of 2 submissions*

(2 points possible)

Report the **sample statistics** for the bull-rider weights. (round to 2 decimal places)

2a. Sample mean (in pounds)=

**Answer:** 152.03

2b. Sample standard deviation (in pounds)=

**Answer:** 14.36

Hide Answer

*You have used 0 of 2 submissions*

Help

(4 points possible)

One-sample **t test** results:

3a. t-statistic (rounded to 1 decimal place)=

**Answer:** -16.3

3b. degrees of freedom for the test =

**Answer:** 37

95% **confidence interval:**

3c. Lower bound estimate, in pounds (rounded to 1 decimal place)=

Help

**Answer:** 147.3

3d. Upper bound estimate, in pounds (rounded to 1 decimal place)=

**Answer:** 156.7

Hide Answer

*You have used 0 of 2 submissions*

(1 point possible)

4. The **p-value** of the test was very small ( $< 0.05$ ). How should we interpret this p-value?

- ☐ If bull-riders really do weigh 190 pounds on average, observing this sample mean is very unlikely. ✓
- ☐ We can only be 5% certain with our results; this test was inconclusive.
- ☐ The percent of bull-riders weighing 190 pounds is less than 5%.
- ☐ There is a 5% chance that bull-riders weigh 190 pounds on average.

**CORRECT. OUR P-VALUE DEMONSTRATES THAT THERE IS A 0.00000000000022% CHANCE THAT BULL RIDERS WEIGH 190 POUNDS ON AVERAGE.**

Hide Answer

*You have used 0 of 2 submissions*

(2 points possible)

We should \_\_\_\_\_ the hypothesis that the mean weight of bull riders is equal to 190 lbs. It appears that the bull-riders actually weigh \_\_\_\_\_ than the average American man.

5a.

reject

5b.

less

[Hide Answer](#)*You have used 0 of 2 submissions*[Help](#)

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