

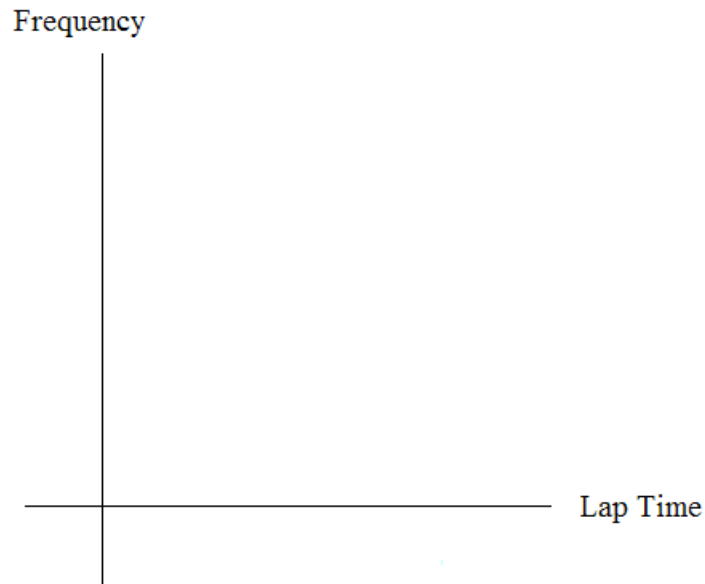
Names:

Student Learning Outcome:

- ## Collect the Data

- [illegible]

2. Construct a histogram. Make 5 - 6 intervals. Sketch the graph using a ruler and pencil. Scale the axes.



3. Calculate the following

a. $\bar{x} =$ _____
b. $s =$ _____

4. Draw a smooth curve through the tops of the bars of the histogram. Use 1– 2 complete sentences to describe the general shape of the curve. (Keep it simple. Does the graph go straight across, does it have a V shape, does it have a hump in the middle or at either end, etc.?)

Analyze the Distribution

Using your sample mean, sample standard deviation, and histogram to help, what was the approximate theoretical distribution of the data from "Collect the Data?"

- $X \sim$ _____
- How does the histogram help you arrive at the approximate distribution?

Describe the Data

Using the data in “Collect the Data” (Hint: order the data):

Remember: $IQR = Q3 - Q1$

- The IQR goes from _____ to _____.
- $IQR =$ _____.
- The 15th percentile is _____.
- The 85th percentile is _____.
- The median is _____.
- The empirical probability that a randomly chosen lap time is more than 130 seconds = _____.
- Explain the meaning the 85th percentile of this data.

Theoretical Distribution

Using the theoretical distribution in “Analyze the Distribution”:

- The IQR goes from _____ to _____.
- $IQR =$ _____.
- The 15th percentile is _____.
- The 85th percentile is _____.
- The median is _____.
- The probability that a randomly chosen lap time is more than 130 seconds = _____.
- Explain the meaning the 85th percentile of this distribution.

Discussion Questions

Do the data from “Collect the data” give a close approximation to the theoretical distribution in “Analyze the Data?” In complete sentences and comparing the results in “Describe the Data” and “Theoretical Distribution”, explain why or why not.