

Poll 1 - A Survey on Basic Statistics Concepts.

EPIB607 - Inferential Statistics^a

^aFall 2018, McGill University

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This live poll was conducted on the first day of class, September 6, 2018. Correct answers are indicated by check marks. Number of votes and number of participants are indicated in the figure legend. For some questions, several selections were allowed.

Descriptive stats | Confidence Interval | p-value | Gaussian distribution | CLT | Simple linear regression

1. Which of the following visual summaries do you know about? (select all that apply)

1. Histograms
2. Stem & Leaf plots
3. Boxplot
4. Dotplot
5. Scatterplot
6. Density plot
7. Violin plot

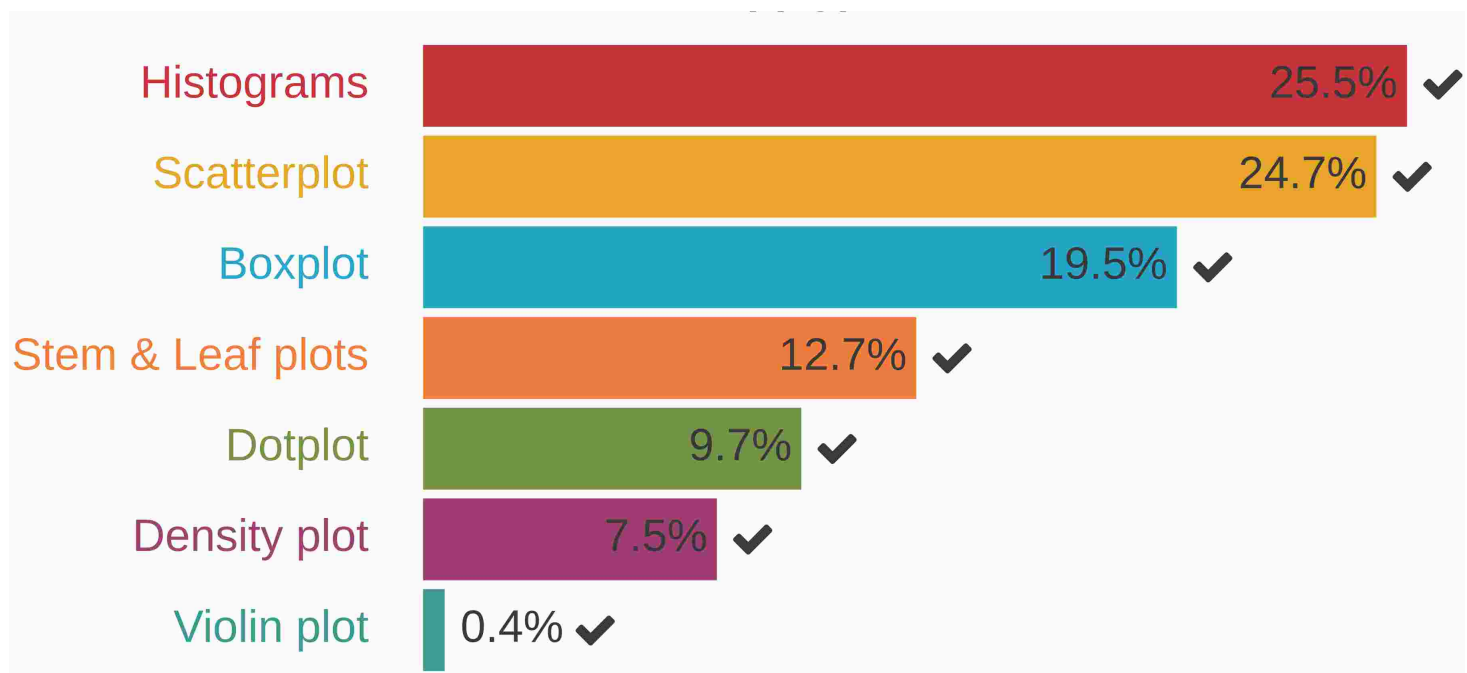


Fig. 1. 267 votes - 69 participants

2. A study records the sex and weight (in kilograms) of 30 recently born bear cubs in Alaska. Which of the following statements is true?

1. Both are categorical variables
2. Both are quantitative variables
3. Sex is categorical, Weight is quantitative

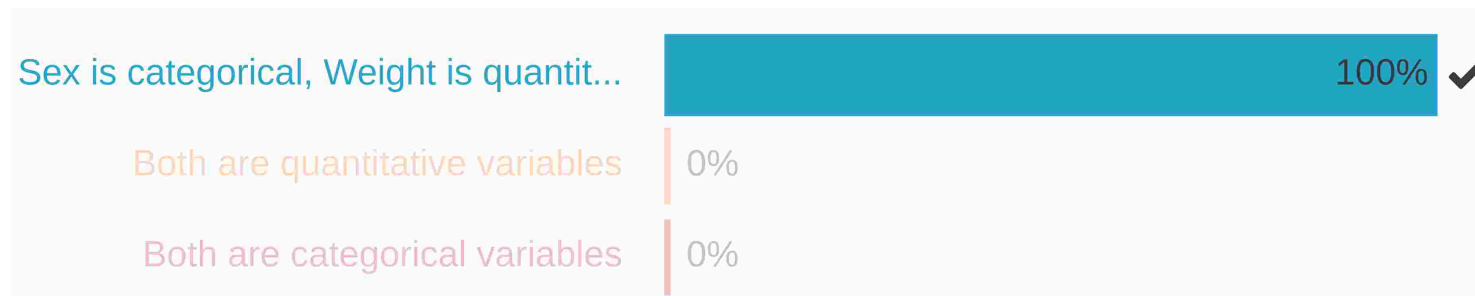


Fig. 2. 72 votes - 72 participants

3. You are given a sequence of 5 numbers: 1, 5, 20, 35, 39. Which of the following statements are true?

1. The median is equal to the mean
2. The median is less than the mean
3. The median is greater than the mean

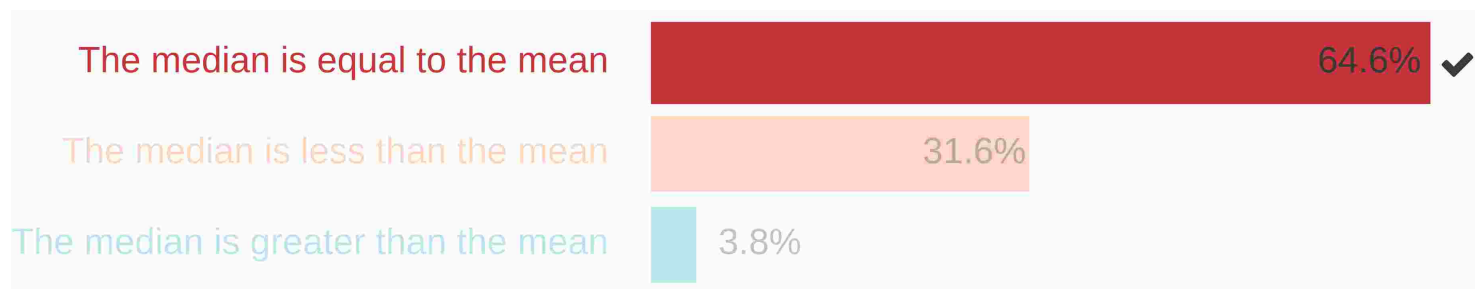


Fig. 3. 79 votes - 79 participants

4. In a distribution with a long right-tail, the median is

1. equal to the mean
2. less than the mean
3. greater than the mean

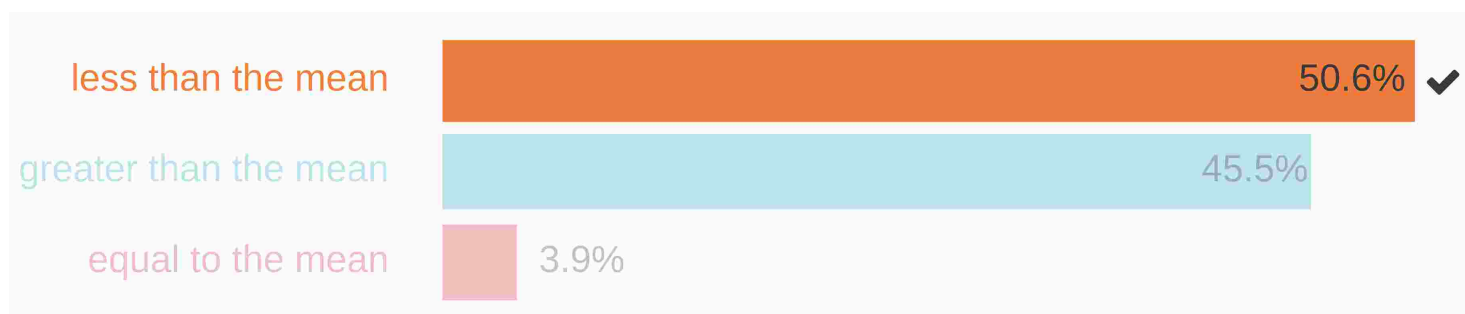


Fig. 4. 77 votes - 77 participants

5. If you add 7 to each value on a sequence of numbers, the standard deviation increases by 7

1. TRUE
2. FALSE



Fig. 5. 77 votes - 77 participants

6. If you double each value on a sequence of numbers, you double the standard deviation.

1. TRUE
2. FALSE



Fig. 6. 75 votes - 75 participants

7. In a large set of observations, the distribution of observations follows the Gaussian curve quite closely

1. TRUE
2. FALSE

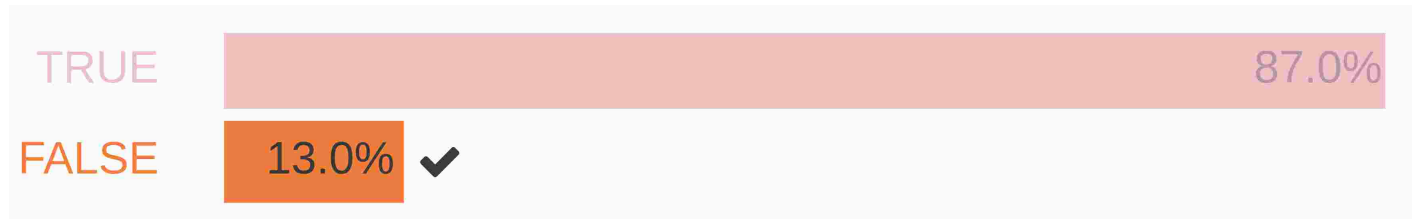


Fig. 7. 77 votes - 77 participants

8. A straight line relating a response variable y to an explanatory variable x is given by $y = a + bx$. Which of the following statements are true? (select all that apply)

1. b is the intercept and a is the slope
2. b is the slope and a is the intercept
3. the intercept a is the value of y when $x=0$

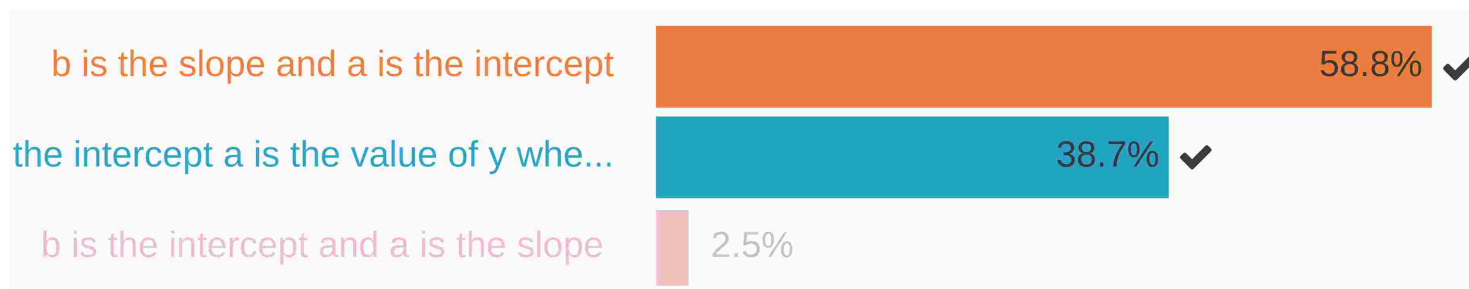


Fig. 8. 119 votes - 79 participants

9. A p-value is (select all that apply)

1. conditional on the null hypothesis being true
2. a measure of evidence
3. the probability of the null hypothesis being true
4. a probability concerning the observed data
5. significant if it is less than 0.05
6. a probability that provides the same information as a confidence interval

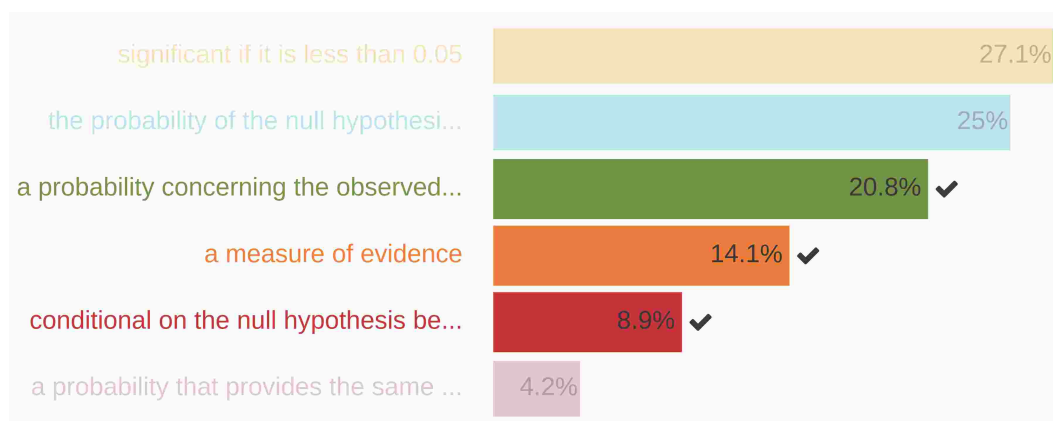


Fig. 9. 192 votes - 80 participants

10. Which of the following statements are correct regarding a confidence interval? (select all that apply)

1. It often has the form: estimate \pm margin of error
2. Is an interval estimate computed from sample data that gives a range of plausible values for a population parameter
3. The interval is constructed so that the value of the parameter will be captured between the endpoints of the interval with a chosen level of confidence
4. The confidence level is the success rate for the method
5. provides more useful information than the p-value

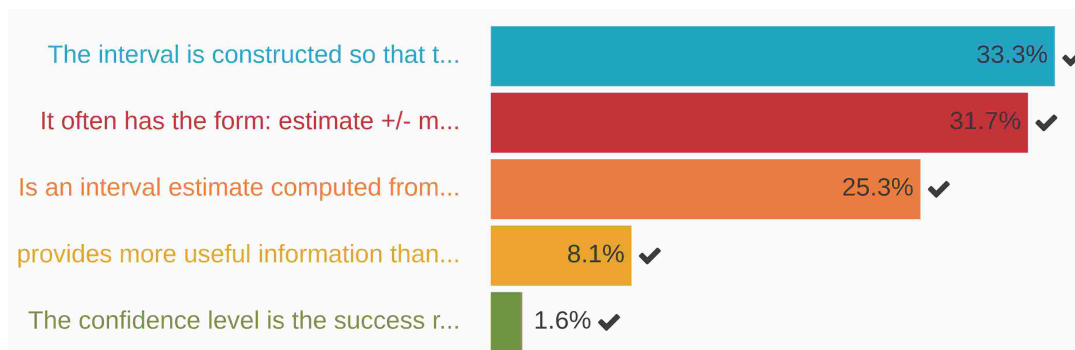


Fig. 10. 186 votes - 79 participants