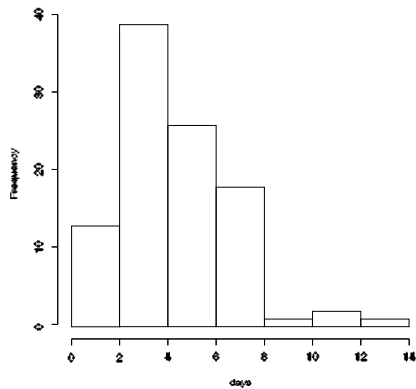


1. Given IQ scores are approximately normally distributed with a mean of 100 and standard deviation of 15, the proportion of people with IQs above 130 is:
 - a. 95%
 - b. 68%
 - c. 5%
 - d. 2.5%
2. Randomly assigning treatment to experimental units allows:
 - a. population inference
 - b. causal inference
 - c. both types of inference
 - d. neither type of inference
4. A parameter is:
 - a. a sample characteristic
 - b. a population characteristic
 - c. unknown
 - d. normal normally distributed
5. A statistic is:
 - a. a sample characteristic
 - b. a population characteristic
 - c. unknown
 - d. normally distributed
6. Observational studies allow:
 - a. population inference
 - b. causal inference
 - c. both types of inference
 - d. neither type of inference
8. Provided that the ACT is reasonably normally distributed with a mean of 18 and standard deviation of 6, determine the proportion of students with a 33 or higher.
 - a. 0.0062
 - b. 0.0109
 - c. 0.0124
 - d. 0.0217
12. When asked questions concerning personal hygiene, people commonly lie. This is an example of:
 - a. sampling bias
 - b. confounding
 - c. non-response bias
 - d. response bias
13. Select the order of sampling schemes from best to worst.
 - a. simple random, stratified, convenience
 - b. simple random, convenience, stratified
 - c. stratified, simple random, convenience
 - d. stratified, convenience, simple random

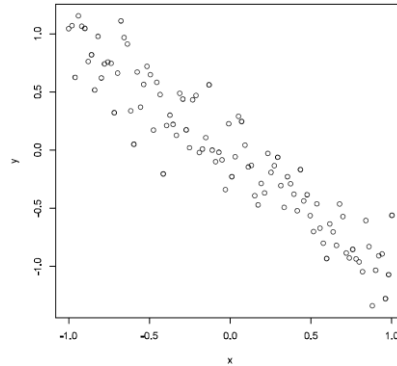


14. The histogram above represents the lifespan of a random sample of a particular type of insect. Determine the relationship between the mean and median.

- mean = median
 - mean \approx median
 - mean < median
 - mean > median
15. When the correlation coefficient, r , is close to one:
- there is no relationship between the two variables
 - there is a strong linear relationship between the two variables
 - it is impossible to tell if there is a relationship between the two variables
 - the slope of the regression line will be close to one
16. Given the following data pairs (x, y) , find the regression equation.
- (1, 1.24), (2, 5.23), (3, 7.24), (4, 7.60), (5, 9.97), (6, 14.31), (7, 13.99), (8, 14.88), (9, 18.04), (10, 20.70)
- $y = 0.490x - 0.053$
 - $y = 2.04x$
 - $y = 1.98x + 0.436$
 - $y = 0.49x$
17. Using the data from 16, calculate the correlation coefficient.
- $r = 0.490$
 - $r = 0.985$
 - $r = 0.971$
 - $r = 0.240$

19. Using the data from 16, obtain a prediction for $x = 4.5$.

- a. 2.15
- b. 2.21
- c. 9.18
- d. 9.34



20. The data in the scatter plot above would have a correlation coefficient close to:

- a. -1.0
- b. -0.5
- c. +1.0
- d. +0.5

21. The intercept in linear regression represents:

- a. the strength of the relationship between x and y
- b. the expected x value when y is zero
- c. the expected y value when x is zero
- d. a population parameter

25. The distribution of heights of American women aged 18 to 24 is approximately normally distributed with a mean of 65.5 inches and standard deviation of 2.5 inches. Calculate the z -score for a woman six feet tall.

- a. 2.60
- b. 4.11
- c. 1.04
- d. 1.33