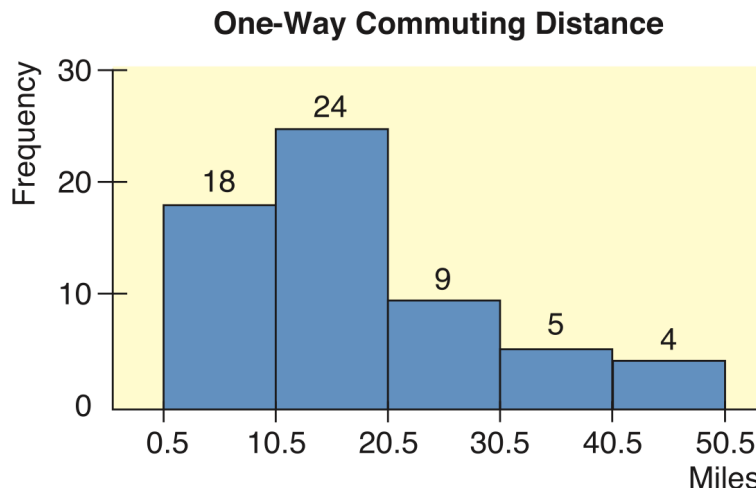


Statistics Test 1

Number of questions—5

Directions: Solve each of the following problems using separate paper, while clearly indicating each problem number when solving. Irrelevant work will detract from your score, while answers without work shown will be awarded no credit. Answers with partially correct work will receive partial credit. Each problem is worth 20 points. You must work alone, but you may use a graphing calculator as a supplement to your own work if you indicate the steps used. You may not use a phone, computer, computational intelligence, AI, or other tools to assist you in solving the problems.

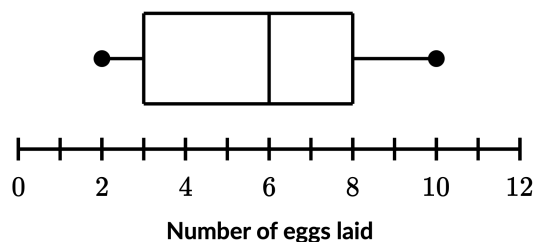
1. For each of the variables listed, state whether it is qualitative or quantitative.
 - (a) Appliance types are refrigerator, oven, and dishwasher.
 - (b) Prices are \$2,000, \$6,000, and \$1,000.
 - (c) Power usages are 400 watts, 2000 watts, and 1200 watts.
 - (d) Heights are 70 inches, 36 inches, and 27 inches.
 - (e) Storage amounts are 28 cubic feet, 6 cubic feet, and 4.2 cubic feet.
 - (f) Power states are on and off.
 - (g) Light settings are high, medium, and low.
 - (h) Barcodes are 867530986753, 528491528491, and 111111111111.
 - (i) Weights are 250 lb, 220 lb, and 77 lb.
 - (j) Finishes are stainless steel, black, and white.
2. Look at the histogram in the figure, which shows one-way commuting distances, in miles, for a random selection of commuters.



- (a) What distribution shape best describes this histogram?
 - (b) How many commuters travel 31-40 miles?
 - (c) How many commuters were selected in total?
 - (d) What percentage of commuters travel 30 miles or less?
3. How long did *real* cowboys live? One answer may be found in the book *The Last Cowboys* by Connie Brooks (University of New Mexico Press). This delightful book presents a thoughtful sociological study of cowboys in west Texas and southeastern New Mexico around the year 1890. A sample of 32 cowboys gave the following years of longevity:

58 52 68 86 72 66 97 89 84 91 91
 92 66 68 87 86 73 61 70 75 72 73
 85 84 90 57 77 76 84 93 58 47

- (a) Make a stem-and-leaf display with the data. Be sure to indicate the scale.
 - (b) What distribution shape best fits the data? Explain your answer.
4. Given the sample data
- 32 27 25 40 35
- (a) Find the mean of the data.
 - (b) Find the variance of the data, rounded to the nearest hundredth.
 - (c) Find the standard deviation of the data, rounded to the nearest hundredth.
 - (d) Find an interval in which at least 75% of the data fall.
5. Here is a box plot that summarizes how many eggs Dave's chickens laid last week.



- (a) Find the range of the data.
- (b) Find the interquartile range of the data.
- (c) Find the median of the data.
- (d) What percent of chickens laid more than 8 eggs?