

NAME: _____

STA470: AP/ACC Statistics

Summer Math Review

DUE: the first day of school

Complete the following problems and questions fully and carefully. Simplify your solutions completely. Show all of your work, and circle your final answers.

1.) Calculate the mean, median, mode, and range of the following data set:

21, 33, 31, 35, 17, 17, 19, 20, 27, 47, 17, 39, 42, 22, 24

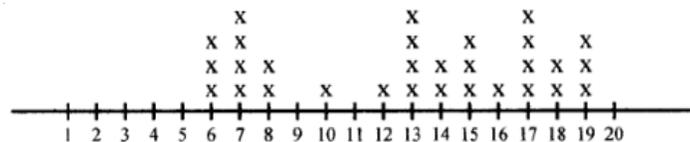
Mean: _____

Median: _____

Mode: _____

Range: _____

2.) Calculate the mean, median, mode, and range of the following dot plot, in which each x represents one data point.



Mean: _____

Median: _____

Mode: _____

Range: _____

- 3.) Stock for Company XYZ decreased from \$14 a share to \$9 a share. What is the percent change in stock price?
- 4.) The tuition at a college increased from 50,000 in 2013 to 59,000 in 2014. What is the percent change in tuition?
- 5.) 14 out of 56 students got an A on a test. What percent of students got an A?
- 6.) 25% of 112 CCP seniors bring lunch from home. How many students does this represent?
- 7.) 32 is 25% of what number?
- 8.) 23 oranges is what percent of 246 oranges?
- 9.) In a store, a \$14 scarf is marked, "20% off." What is the sale price of the scarf?

10.) In a bicycle store, a \$500 bicycle is marked, "Get a 30% discount plus an additional 10% off that price if you use your credit card." What is the final sale price of the bicycle?

11.) Sam deposited \$400 into a savings account that earned 4% interest per year. How much money did he have after 2.5 years?

12.) If the sales tax rate is 7.25% in California, then how much tax should a merchant charge in San Francisco for the sale of a \$15 scarf?

13.) If the sales tax rate is 7.5% in Missouri, then how much was the ORIGINAL price of a pair of pants that came out to \$36.55 AFTER tax was included?

14.) A diner offers 6 salad options, 10 sandwich options, and 4 dessert options. How many meals consisting of 1 salad, 1 sandwich, and 1 dessert can be made?

15.) There are 6 red marbles, 4 blue marbles, and 2 white marbles in a bag. What is the probability of...

a.) drawing one red marble?

b.) drawing two red marbles in a row?

c.) drawing a red or white marble?

d.) drawing a green marble?

16.) A cab company charges a fixed rate of \$15 plus \$2 per mile driven.

a.) Write a linear equation that relates the number of miles drive to the total cost. Define your variables.

b.) What is the slope, and what is the y-intercept?

c.) In the context of the problem, what does the slope mean?

d.) In the context of the problem, what does the y-intercept mean?

e.) How much will a passenger be charged if he rides for 16.3 miles?

17.) In 1997 there were 92,353 deaths from accidents in the United States. Among these were 42,340 deaths from motor vehicle accidents, 11,858 from falls, 10,163 from poisoning, 4051 from drowning, and 3601 from fires. The rest were listed as “other” causes.

a.) Find the percent of accidental deaths from each of these causes, rounded to the nearest percent.

Motor vehicle accidents: _____

Falls: _____

Poisoning: _____

Drowning: _____

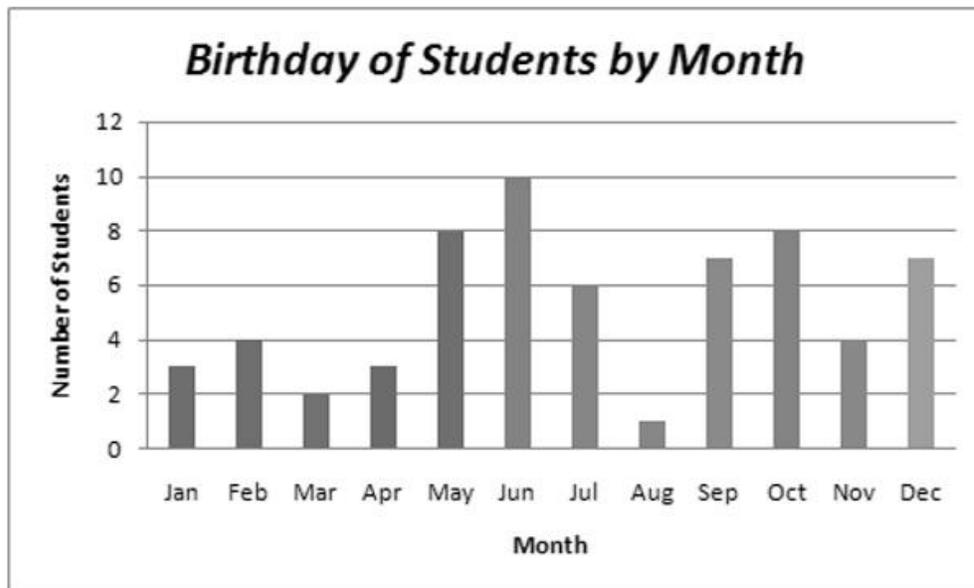
Fires: _____

b.) What percent of accidental deaths were from “other” causes? _____

c.) NEATLY create a well-labeled bar graph of the distribution of causes of accidental deaths—that is, use the percentages you found in parts (a) and (b). Be sure to include an “other causes” bar. See the example bar graph at the bottom of the page for a model.



Example of a bar graph:



18.) The USDA reported that in 1990 each person in the United States consumed an average of 133 pounds of natural sweeteners. They also claim this amount has decreased by about 0.6 pounds each year.

a.) Write a linear equation that relates years since 1990 to the average consumption of natural sweeteners. Define your variables.

b.) What is the slope, and what is the y-intercept?

c.) Interpret the meaning of the slope in the context of the problem.

d.) Interpret the meaning of the y-intercept in the context of the problem.

e.) Predict the average consumption of sweeteners per person for the year 2005.

Click on the following link and read the article from the New York Times:

<http://www.nytimes.com/2012/02/19/magazine/shopping-habits.html>

Then answer the following questions:

1. What do you think of Target's data collection practices?

2. Why would companies like Target be interested in collecting data on their individual customers?

3. Beyond simply collecting data, what did Target have to do in order for the data to be useful to them?

4. As a high school senior, you are likely receiving targeted marketing advertisements from numerous colleges. What data are those colleges probably using to decide to target you? Why is this information useful to them?

Prior to the first day of school, please read Chapter 2 (pages 7-16) in your textbook and take notes on loose-leaf.