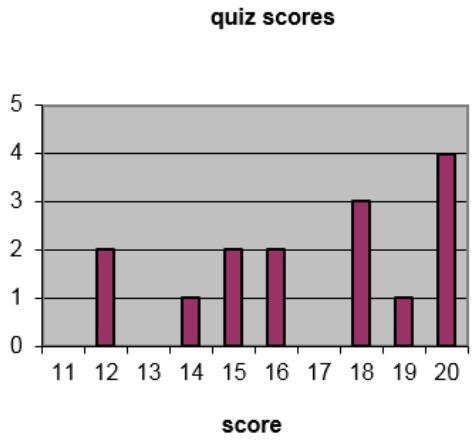
Graphing and data practice problems answers:

Task 3: Try to figure out the original data based on the quiz scores bar graph given below. Use what you know about the original data to find the
a. mean,
b. mean absolute deviation,
c. median,
d. mode,
e. upper and lower quartile for the data.
f. Make a stem and leaf plot for the data



Data list: 12, 12, 14, 15, 15, 16, 16, 18, 18, 18, 19, 20, 20, 20,
a. mean: 16.87
b. mean absolute deviation 2.41
c. median 18
d. mode 20
e. lower quartile: 15, upper quartile: 19.5 or 20
f. stem and leaf plot

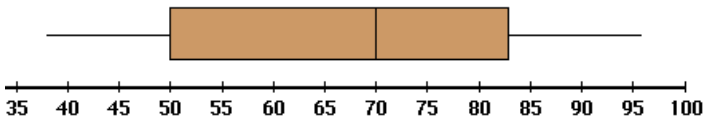
1	22455668889
2	0000

legend: 1|5=15

Extra questions:
4. If I made a circle graph/pie chart with the data below, how many degrees should each pie wedge be?

Favorite pet	frequency	degrees
Dog	9	162°
Cat	4	72°
Bird	5	90°
Rabbit	2	36°

5. The data for this graph was collected from 80 people. What is the median? 70
What is the upper quartile? 83
About how many people scored above 70%? 40
How many scored above 83%? 20



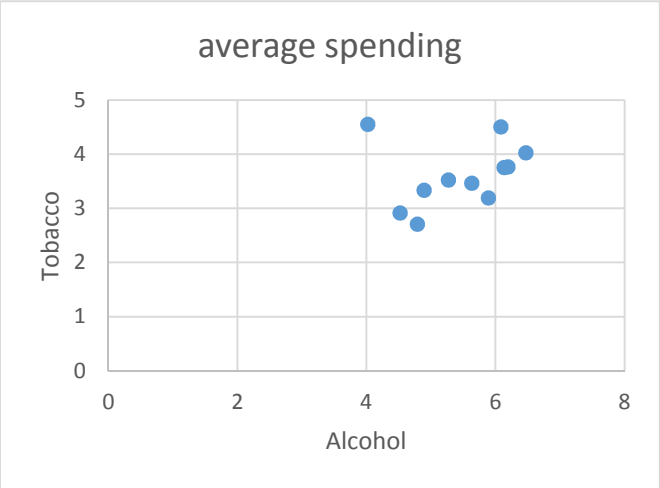
6. Give two examples of category data, and two examples of numerical data you could collect with elementary aged children.
Category: favorite color, favorite fruit, color of shirt, color of shoes,
Numerical: height, handspan, number of siblings, number of pencils
List 3 kinds of graphs you can make for category and 3 kinds you can make for numerical data.
Category: bar graph, picture graph, circle graph
Numerical: line plot/dot plot, box and whiskers graph, histogram, stem and leaf plot

7. What is the difference between a bar graph and a histogram?
A bar graph is for category (or at least whole number) data, where each category is distinct. The bars usually don't touch on the sides. Each bar is labelled.
A histogram is for measurement and number data, especially where it makes sense to group numbers together. The bars touch on the sides. The numbers where the bars meet are labelled. The axis that is not the frequency axis is a number line.

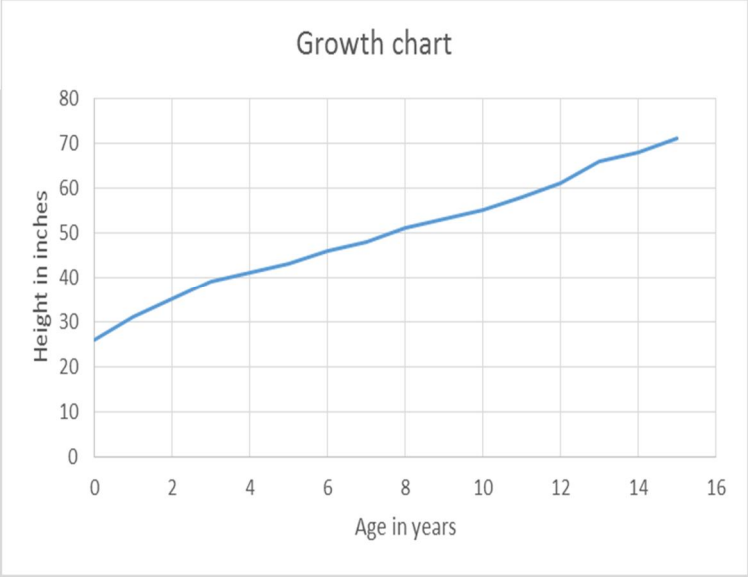
Task 1: for each of the data sets, list the kinds of graphs that it would be reasonable to make from the data.
A: good choices are scatter plot and box plot. The amounts might be correlated so a scatter plot would be a good choice.
B. best choice is line graph
C. Circle graph or bar graph
D. Circle graph of bar graph. There are lots of categories so a bar graph might be easier to read and make.
E. Boxplot would be best. Side by Side histograms or line plots would be OK too.
F. A histogram would be best. A boxplot would be OK too.
G. A line plot/dot plot would be a good choice. A box plot would be OK too.

Task 2: Make a graph for each data set.

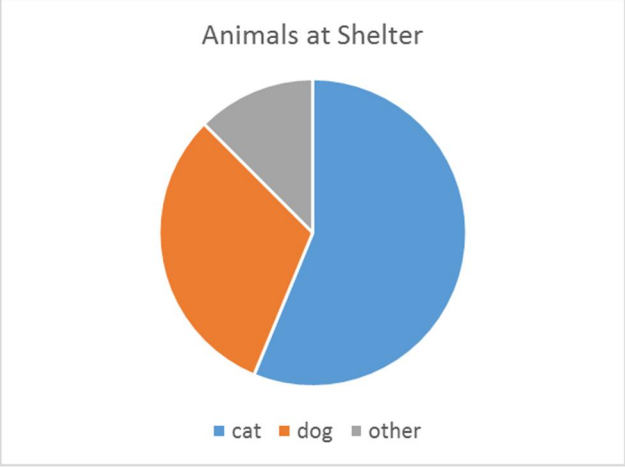
A:. Here is a scatter plot:



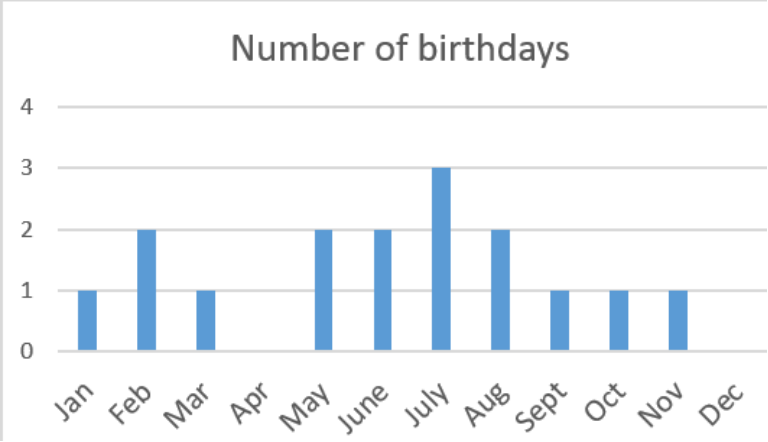
B. Here is a line graph:



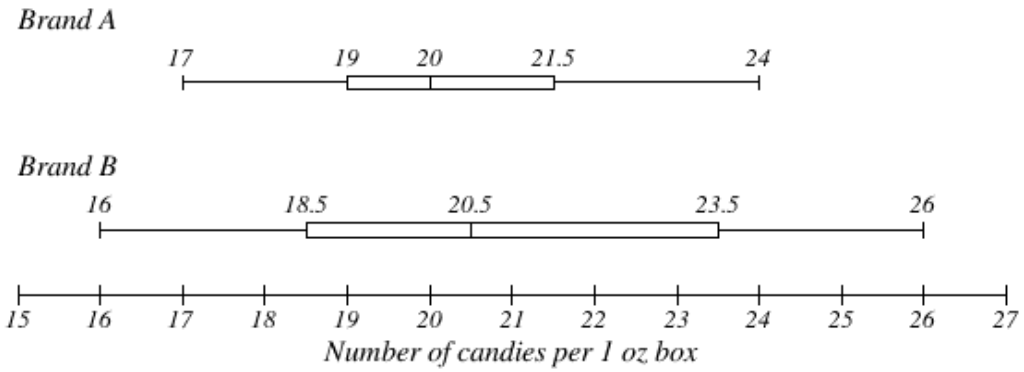
C: A circle graph:



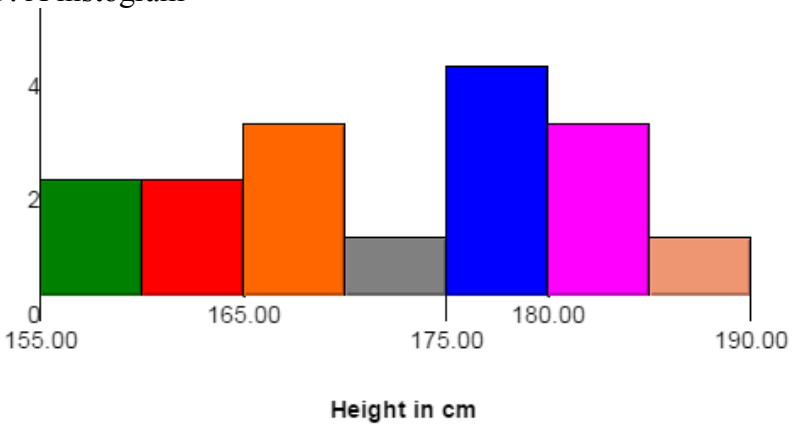
D. A bar graph



E. Here's a boxplot:



F. A histogram



G. A line plot/dot plot.