

Station 1 (11.1)

I can compare the mean, median, and mode of a data set

I can find the range and standard deviation of a data set

Using the following data sets, identify the mean, median, mode, standard deviation, range, and identify outliers (if any).

1. 2, 5, ^{outlier} 16, 2, 2, 7, 3, 4, 4

mean = ~~2~~ 5 mode = 2 range = $16 - 2 = 14$
median = 4 s.d. = 4.19

2. 160, 157, 162, 158, ^{outlier} 44, 160, 159, 161

mean = 155.125 mode = 160 range = $162 - 44 = 118$
Median = 159.5 s.d. = 38.3

3. Which data set has values more clustered by the mean?

Data set 1 because s.d. is smaller

4. If 2 is added to all the data in question 1, what are the new values you found in question 1?

1? mean = 4 mode = 4 outlier = 18
median = 6 s.d. / range = same!

5. If the data in question 1 is multiplied by 2, what are the new values you found in question 1?

question 1? everything is $\times 2$!

Station 2 (11.2)

I can use box-and-whisker plots to represent data sets

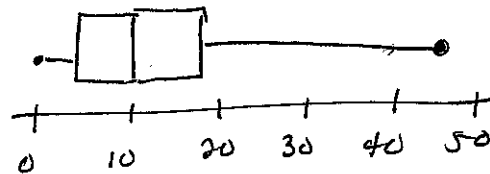
I can interpret box-and-whisker plots

I can use box-and-whisker plots to compare data sets

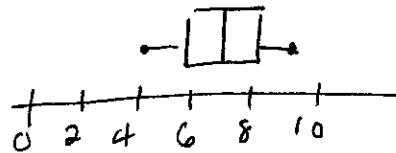
Identify the 5 number summary, and then make a box-and-whisker plot with that information.

1. 0, 4, 10, 17, 45

Numbers of First Cousins			
3	10	18	8
9	3	0	32
23	19	13	8
6	3	3	10
12	45	1	5
13	24	16	14



2. Hours of sleep: 7, 9, 8, 8, 8, 6, 6, 5, 4
4, 5, 5, 7, 8, 9

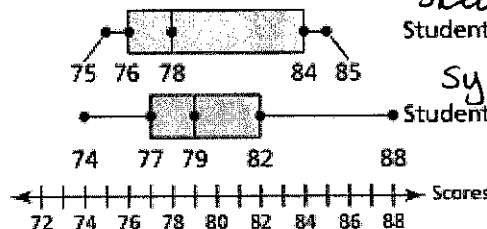


3. The double box-and-whisker plot represents the quiz scores of two students over the course of the year in their algebra class.

a. Identify the shape of each distribution.

b. Which student was more consistent on his or her quiz scores? Explain.

c. Which student has the single best quiz score?



skewed right
Student 2

symmetric (skewed rt. OK)

Student 2, smaller range

Student 1, 88%

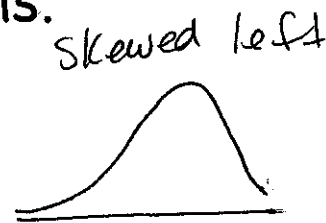
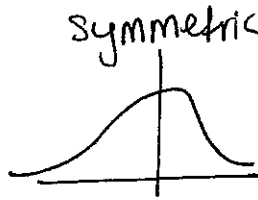
Station 3 (11.3)

I can describe the shapes of data distribution

I can use the shapes of data distribution to choose appropriate measures

1) Draw a graph with the following characteristics. Then explain what you know about the data in those graphs.

1) symmetric



2) skewed left

3) skewed right



2) Explain which measure of central tendency, and measure of variation is best for each graph.

Symmetric: mean, standard deviation
skewed right/left: median, IQR

Station 4 (11.3)

I can describe the shapes of data distribution

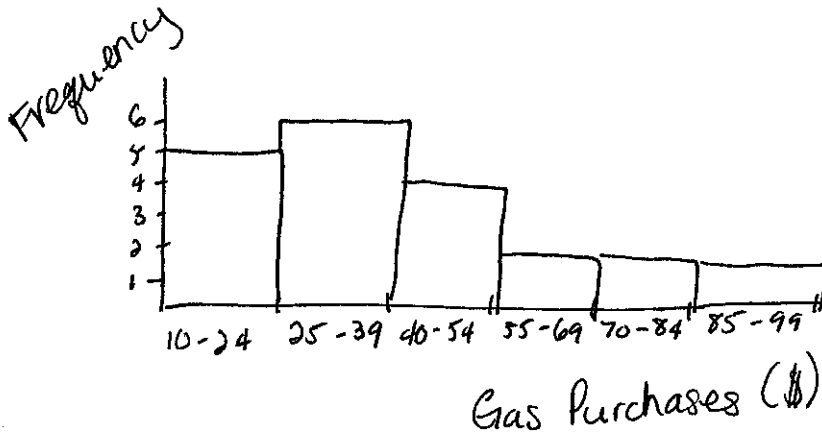
1. The table shows the last gas purchases at the pump.

Gas Purchases (dollars)						
36	75	42	17	98	93	10
24	15	27	32	23	65	27
54	71	48	43	38	26	58

10-24	7/11
25-39	11/11
40-54	1/1/1
55-69	1/1
70-84	1/1
85-99	1/1

- a. Display the data in a histogram using six intervals beginning with 10-24.
- b. Which measures of center and variation best represent the data? Explain.

skewed right: median
IQR



Station 5 (11.4)

I can find and interpret marginal frequencies

I can make two-way tables

I can find relative and conditional relative frequencies

Find the relative frequencies of the following. Then answer the questions.

1.

		Skateboard		Total
		Yes	No	
Surf	Yes	32	65	97
	No	45	24	69
total		77	89	166

2.

		Pet		Total
		Yes	No	
Job	Yes	74	13	87
	No	153	32	185
total		227	45	272

- What percent of students surf? $97/166 = 58.4\%$
- What percent of students do not skateboard? $89/166 = 53.6\%$
- What percent of students who surf also skateboard? $32/97 = 33.0\%$
- What percent of students neither surf nor skateboard? $65/166 = 39.2\%$

3. Complete the two-way table.

		Participated in a Triathlon		Total
		Yes	No	
Gender	Female	24	113	137
	Male	27	142	169
Total		51	255	306