

Statistics – Measures of Central Tendency

- **measures of central tendency** → represents the _____ of a set of data

- mean – the _____ divided by the _____
 - a common notation for mean is _____ (often called “ _____ ”)
 - it can also be written in this form _____
- median – after arranging the numbers from _____, it represents the _____
 - if there are an _____ number of numbers then truly take the middle number
 - if there are an _____ number of numbers then take the average of two middle numbers
- mode – represents the number that _____
 - if no number occurs more often than any other, then the data is _____
 - if there are two numbers that occur that same number of times, then the data is _____

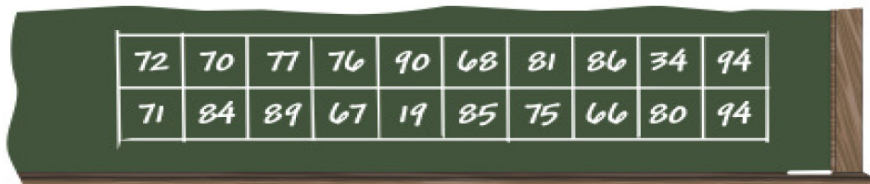
Examples: Find the measures of central tendency for each the data sets below.

1.) A sweepstakes offers a first prize of \$10,000, two second prizes of \$100, and one hundred third prizes of \$10.

a.) Which measure of central tendency BEST represents the available prizes?

b.) Which measure of central tendency would the organizers of the sweepstakes be most likely to use in their advertising?

2.) Below are Mr. Dent’s Algebra 2 class test scores.



72	70	71	76	90	68	81	86	34	94
71	84	89	67	19	85	75	66	80	94

a.) List the test scores from least to greatest:

b.) What are the measures of central tendency of the scores?

mean = _____ median = _____ mode = _____

c.) Mr. Dent’s students asked how they did on the test. Which measure of central tendency would best answer the students’ question?

3.) Use the stem-leaf plot below:

Stem	Leaf
4	4 5 6 7 7
5	3 5 6 7 8 9
6	7 7 8 9 9 9

- a.) What is the mean? _____
- b.) What is the median? _____
- c.) What is the mode? _____
- d.) Is having the data set up like this helpful? Explain.

4.) The table lists the areas of some large shopping malls in the United States.

	Mall	Gross Leasable Area (ft ²)
1	Del Amo Fashion Center, Torrance, CA	3,000,000
2	South Coast Plaza/Crystal Court, Costa Mesa, CA	2,918,236
3	Mall of America, Bloomington, MN	2,472,500
4	Lakewood Center Mall, Lakewood, CA	2,390,000
5	Roosevelt Field Mall, Garden City, NY	2,300,000
6	Gurnee Mills, Gurnee, IL	2,200,000
7	The Galleria, Houston, TX	2,100,000
8	Randall Park Mall, North Randall, OH	2,097,416
9	Oakbrook Shopping Center, Oak Brook, IL	2,006,688
10	Sawgrass Mills, Sunrise, FL	2,000,000
10	The Woodlands Mall, The Woodlands, TX	2,000,000
10	Woodfield, Schaumburg, IL	2,000,000

a.) Find the measures of central tendency:

mean = _____

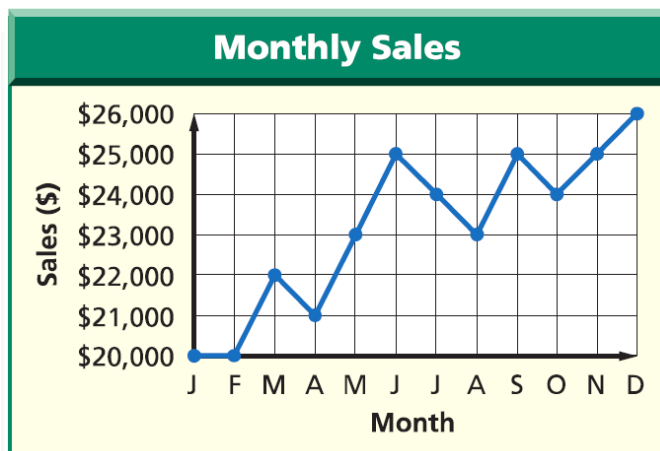
median = _____

mode = _____

b.) You are a realtor who is trying to lease mall space in different areas of the country to a large retailer. Which measure would you talk about if the customer felt that the malls were too large for his store?

c.) Which measure would you talk about if the customer had a large inventory?

5.) A graph of monthly sales is given below:



a.) Find the measures of central tendency:

mean = _____

median = _____

mode = _____

b.) What types of situations could this graph be used for?
