

Name: _____
Date: _____
Class: _____

Measures of Central Tendency: Mean, Median, and Mode Worksheet

Find the mean, median, and mode for each set of data

- 4, 6, 9, 12, 5
- 7, 13, 4, 7
- 10, 3, 8, 15
- 9, 9, 9, 9, 8
- 300, 24, 40, 50, 60
- 23, 23, 12, 12

Find the median and mode of the data represented in each stem and leaf plot.

7.

Stem	Leaf
7	3 5
8	2 2 4
9	0 4 7 9
10	5 8
11	4 6

8.

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

9.

Stem	Leaf
9	3 5
10	2 5 8
11	5 8 9 9
12	4 7 8 9

Solve:

- The price list for computers shown in a magazine advertisement was \$899, \$1295, \$1075, \$1597, and \$1800. Find the median price.
- The prices of six different models of printers in a computer store are \$299, \$349, \$495, \$329, \$198, and \$375. Find the median price.

Variance and Standard Deviation Homework

1. The following table gives the 1992 gross sales (rounded to billions of dollars) for a sample of eight U.S. companies.

Company	1992 Gross Sales (billions of dollars)
Philip Morris	50
General Electric	62
Pfizer	7
Merck	10
Coca-Cola	13
AT&T	65
Hewlett-Packard	17
Johnson & Johnson	14

Find the range, mean, variance and standard deviation for the data on 1992 gross sales of these companies. Only use your calculator to check your answers. Show all steps of your work.

2. The following data give the weekly expenditures (in dollars) on bakery products for 10 households randomly selected from the 1990 Dairy Survey.

5.79	4.27	3.86	2.49	6.83
8.16	14.60	7.12	9.92	3.77

Find the range, mean, variance and standard deviation for this data. Only use your calculator to check your answers. Show all steps of your work.

3. The following data give the number of new cars sold at a dealership during a 12-day period.

13 5 9 6 8 11 9 15 4 11 7 5

Find the range, mean, variance and standard deviation. Only use your calculator to check your answers. Show all steps of your work.

12-6 Practice

Statistical Measures

Find the variance and standard deviation of each set of data to the nearest tenth.

1. {47, 61, 93, 22, 82, 22, 37}
2. {10, 10, 54, 39, 96, 91, 91, 18}
3. {1, 2, 2, 3, 3, 3, 4, 4, 4, 4, 5, 5, 5, 5, 5}
4. {1100, 725, 850, 335, 700, 800, 950}
5. {3.4, 7.1, 8.5, 5.1, 4.7, 6.3, 9.9, 8.4, 3.6}
6. {2.8, 0.5, 1.9, 0.8, 1.9, 1.5, 3.3, 2.6, 0.7, 2.5}

7. HEALTH CARE Eight physicians with 15 patients on a hospital floor see these patients an average of 18 minutes a day. The 22 nurses on the same floor see the patients an average of 3 hours a day. As a hospital administrator, would you quote the mean, median, or mode as an indicator of the amount of daily medical attention the patients on this floor receive? Explain.

For Exercises 8–10, use the frequency table that shows the percent of public school teachers in the U. S. in 1999 who used computers or the Internet at school for various administrative and teaching activities.

Activity	Percent Using Computer or Internet
Create instructional materials	39
Administrative record keeping	34
Communicate with colleagues	23
Gather information for planning lessons	16
Multimedia classroom presentations	8
Access research and best practices for teaching	8
Communicate with parents or students	8
Access model lesson plans	6

Source: National Assessment of Educational Progress

8. Find the mean, median, and mode of the data.
9. Suppose you believe teachers use computers or the Internet too infrequently. Which measure would you quote as the “average?” Explain.
10. Suppose you believe teachers use computers or the Internet too often. Which measure would you quote as the “average?” Explain.

For Exercises 11 and 12, use the frequency table that shows the number of games played by 24 American League baseball players between opening day, 2001 and September 8, 2001.

No. of Games	Frequency
141	4
140	3
139	4
138	5
137	2
136	3
135	3

Source: Major League Baseball

11. Find the mean, median, mode, and standard deviation of the number of games played to the nearest tenth.
12. For how many players is the number of games within one standard deviation of the mean?

12-7

Practice

The Normal Distribution

Determine whether the data in each table appear to be *positively skewed*, *negatively skewed*, or *normally distributed*.

1. **Time Spent at a Museum Exhibit**

Minutes	Frequency
0–25	27
26–50	46
51–75	89
75–100	57
100+	24

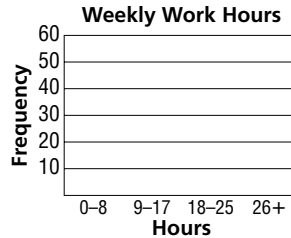
2. **Average Age of High School Principals**

Age in Years	Number
31–35	3
36–40	8
41–45	15
46–50	32
51–55	40
56–60	38
60+	4

For Exercises 3 and 4, use the frequency table that shows the number of hours worked per week by 100 high school seniors.

Hours	Number of Students
0–8	30
9–17	45
18–25	20
26+	5

- Make a histogram of the data.
- Do the data appear to be *positively skewed*, *negatively skewed*, or *normally distributed*? Explain.



TESTING For Exercises 5–10, use the following information.

The scores on a test administered to prospective employees are normally distributed with a mean of 100 and a standard deviation of 15.

- About what percent of the scores are between 70 and 130?
- About what percent of the scores are between 85 and 130?
- About what percent of the scores are over 115?
- About what percent of the scores are lower than 85 or higher than 115?
- If 80 people take the test, how many would you expect to score higher than 130?
- If 75 people take the test, how many would you expect to score lower than 85?
- TEMPERATURE** The daily July surface temperature of a lake at a resort has a mean of 82° and a standard deviation of 4.2° . If you prefer to swim when the temperature is at least 77.8° , about what percent of the days does the temperature meet your preference?