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Study Guide and Intervention

Frequency Tables HW #3

A **frequency table** uses tally marks to show how many times each piece of **data** appears. If the data is numerical, the table should have a **scale** which includes the least and the greatest numbers. Also, each table should have an **interval** which separates the scale into equal parts.

EXAMPLE 1 **ATHLETIC SHOES** The table shows prices of 20 types of athletic shoes at a recent sidewalk sale. Make a frequency table and then determine how many types are available for less than \$80.

60	45	120	75	50
70	95	135	65	47
43	110	84	70	53
100	75	70	85	130

Step 1 Choose an appropriate interval and scale for the data. The scale should include the least price, \$43, and the greatest price, \$135.

Step 2 Draw a table with three columns and label the columns *Price*, *Tally*, and *Frequency*.

Step 3 Complete the table.

Step 4 Two categories include prices less than \$80.

\$40–\$59 = 5 types

\$60–\$79 = 7 types

So, 5 + 7 or 12 types of shoes cost less than \$80.

Price (\$)	Tally	Frequency
40–59		5
60–79		7
80–99		3
100–119		2
120–139		3

EXERCISES

For Exercises 1 and 2, use the table below.

3	7	10	0	2
12	18	3	1	15
10	11	8	5	9
8	12	6	8	12

1. Make a frequency table of the data.

2. Use your frequency table to determine how many students studied 10 hours or more.

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Mean, Median, and Mode

The **mean** is the sum of the data divided by the number of data items. The **median** is the middle number of the ordered data, or the mean of the middle two numbers. The **mode** is the number (or numbers) that occur most often. The mean, median, and mode are each **measures of central tendency**.

EXAMPLE 1 The table shows the number of hours students spent practicing for a music recital. Find the mean, median, and mode of the data.

Numbers of Hours Spent Practicing				
3	12	10	8	7
18	11	12	10	3
8	6	0	1	5
8	2	15	9	12

$$\text{mean} = \frac{3 + 12 + 10 + \dots + 12}{20} = \frac{160}{20} \text{ or } 8.$$

To find the median, the data must be ordered.

0, 1, 2, 3, 3, 5, 6, 7, 8, 8, 8, 9, 10, 10, 11, 12, 12, 12, 15, 18

$$\frac{8 + 8}{2} = 8$$

To find the mode, look for the number that occurs most often. Since 8 and 12 each occur 3 times, the modes are 8 and 12.

EXERCISES

* Also find range, identify outliers + choose the best measure of central tendency

Find the mean, median, and mode for each set of data. Round to the nearest tenth if necessary.

1. 27, 56, 34, 19, 41, 56, 27, 25, 34, 56

2. ~~7, 3, 12, 4, 6, 3, 4, 8, 7, 3, 20~~

mean: _____ range: _____
 median: _____ outliers: _____
 mode: _____ best measure: _____

3. 1, 23, 4, 6, 7, 20, 7, 5, 3, 4, 6, 7, 11, 6

4. ~~3, 3, 3, 3, 3, 3, 3~~

mean: _____ range: _____
 median: _____ outliers: _____
 mode: _____ best measure: _____

5. 2, 4, 1, 3, 5, 6, 1, 1, 3, 4, 3, 1

6. ~~4, 0, 12, 10, 0, 5, 7, 16, 12, 10, 12, 12~~

mean: _____ range: _____
 median: _____ outliers: _____
 mode: _____ best measure: _____