



# Graphing Calculator Investigation

A Follow-Up of Lesson 5-8

Sharp EL-9900

## Mean and Median

A graphing calculator is able to perform operations on large data sets efficiently. You can use a Sharp EL-9900 graphing calculator to find the mean and median of a set of data.

**SURVEYS** Fifteen seventh graders were surveyed and asked what was their weekly allowance (in dollars). The results of the survey are shown at the right.

20	10	5	5	10
15	5	10	5	10
5	5	5	5	5

Find the mean and median allowance.

### Step 1 Enter the data.

- Clear any existing lists.

KEYSTROKES: **STAT** **ALPHA** [A] **ENTER** **▲**  
**DEL** **ENTER**

- Enter the allowances as L1.

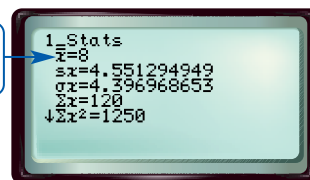
KEYSTROKES: 20 **ENTER** 10 **ENTER** ... 5 **ENTER**

### Step 2 Find the mean and median.

- Display a list of statistics for the data.

KEYSTROKES: **2nd** **CL** **STAT** **ALPHA** [C]  
 1 **2nd** F [L1] **ENTER**

The first value,  $\bar{x}$ , is the mean.



Use the down arrow key to locate "Med." The median allowance is \$5 and the mean allowance is \$8.

### Exercises

Clear list L1 and find the mean and median of each data set. Round decimal answers to the nearest hundredth.

- 6.4, 5.6, 7.3, 1.2, 5.7, 8.9 **5.85; 6.05**
- 23, -13, -16, -21, -15, -34, -22 **-20.57; -21**
- 123, 423, 190, 289, 99, 178, 156, 217, 217 **210.22; 190**
- 8.4, 2.2, -7.3, -5.3, 6.7, -4.3, 5.1, 1.3, -1.1, -3.2, 2.2, 2.9, 1.4, 68 **5.5; 1.8**
- Look back at the medians found. When is the median a member of the data set? **See margin.**
- Refer to Exercise 4. **a-c. See margin.**
  - Which statistic best represents the data, the mean or median? Explain.
  - Suppose the number 68 should have been 6.8. Recalculate the mean and median. Is there a significant difference between the first pair of values and the second pair?
  - When there is an error in one of the data values, which statistic is least likely to be affected? Why?



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