

# Graphing Technology Lab

## Histograms

Sharp EL-9900C

You can use a Sharp EL-9900C graphing calculator to make a histogram.

### ACTIVITY

**FOOTBALL** The table below shows the total number of points scored in each Super Bowl. Make a histogram to show the point distribution.

Total Number of Points Scored in Each Super Bowl						
45	47	23	30	29	27	21
31	22	38	46	37	66	50
37	47	44	47	54	56	59
52	36	65	39	61	69	43
75	44	56	55	53	39	41
37	69	61	45	31	46	

**Step 1** Enter the data.

- Clear memory.

KEYSTROKES:  $\boxed{2\text{ndF}}$   $\boxed{[\text{OPTION}]}$   $\boxed{[\text{ALPHA}]}$   $\boxed{E}$   
 $\boxed{2}$   $\boxed{[\text{CL}]}$   $\boxed{[\text{ENTER}]}$

- Enter the data in L1.

KEYSTROKES:  $\boxed{[\text{STAT}]}$   $\boxed{[\text{ENTER}]}$  45  $\boxed{[\text{ENTER}]}$  31  
 $\boxed{[\text{ENTER}]}$  ... 41  $\boxed{[\text{ENTER}]}$

**Step 2** Format the graph.

- Turn on the statistical plot.

KEYSTROKES:  $\boxed{[\text{STAT PLOT}]}$   $\boxed{[\text{ENTER}]}$   $\boxed{[\text{ENTER}]}$

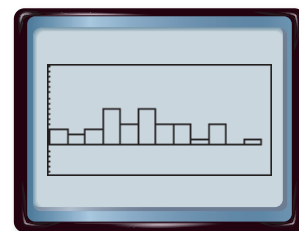
- Select the histogram and L1 as the ListX.

KEYSTROKES:  $\boxed{[\blacktriangledown]}$  X  $\boxed{[\blacktriangledown]}$   $\boxed{[\blacktriangledown]}$   $\boxed{[\blacktriangledown]}$   $\boxed{[\text{STAT PLOT}]}$  A: HIST  $\boxed{[\blacktriangleright]}$   
1: HIST  $\boxed{[\text{ENTER}]}$

**Step 3** Graph the histogram.

- Set the viewing window so the  $x$ -axis goes from 20 to 80 in increments of 5 and the  $y$ -axis goes from  $-5$  to 15 in increments of 1. So,  $[20, 80]$  scl: 5 by  $[-5, 15]$  scl: 1. Then graph.

KEYSTROKES:  $\boxed{[\text{WINDOW}]}$  20  $\boxed{[\text{ENTER}]}$  80  $\boxed{[\text{ENTER}]}$  5  $\boxed{[\text{ENTER}]}$   $\boxed{[-]}$  5  $\boxed{[\text{ENTER}]}$  15  
 $\boxed{[\text{ENTER}]}$  1  $\boxed{[\text{ENTER}]}$   $\boxed{[\text{GRAPH}]}$



$[20, 80]$  scl: 5 by  $[-5, 15]$  scl: 1

### Analyze the Data

1. Press  $\boxed{[\text{TRACE}]}$ . Find the frequency of each interval using the right and left arrow keys.
2. Discuss why the domain is from 21 to 75 for this data set.
3. How does the graphing calculator determine the size of the intervals?
4. How many Super Bowls have had a point total of at least 35, but less than 60?
5. What percent of point totals falls in the range of Exercise 4?
6. Can you tell from the histogram how many Super Bowls had point totals of 48?
7. Make a stem-and-leaf plot of the data. How does the stem-and-leaf plot compare to the histogram you have graphed here? Which graph is easier to read?