



Graphing Calculator Investigation

A Follow-Up of Lesson 12-4

Histograms

You can use a TI-83 Plus graphing calculator to make a histogram.

PRESIDENTS The list below shows the ages of the first 43 presidents at the time of inauguration.

57	61	57	57	58	57	61	54	68	51	49
64	50	48	65	52	56	46	54	49	50	47
55	55	54	42	51	56	55	51	54	51	60
62	43	55	56	61	52	69	64	46	54	

Make a histogram to show the age distribution.

Step 1 Enter the data.

- Clear any existing data in list L1.
KEYSTROKES: **STAT** **ENTER** **▲** **CLEAR**
ENTER
- Enter the ages in L1.
KEYSTROKES: Review entering a list on page 45.

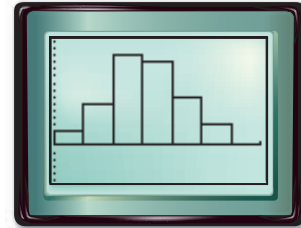
Step 2 Format the graph.

- Turn on the statistical plot.
KEYSTROKES: **2nd** **[STAT PLOT]** **ENTER**
ENTER
- Select the histogram and L1 as the Xlist.
KEYSTROKES: **▼** **▶** **▶** **ENTER** **▼** **2nd**
L1 **ENTER**

Step 3 Graph the histogram.

Set the viewing window so the x -axis goes from 40 to 75 in increments of 5, and the y -axis goes from -5 to 15 in increments of 1. So, $[40, 75]$ scl: 5 by $[-5, 15]$ scl: 1. Then graph.

KEYSTROKES: **WINDOW** 40 **ENTER** 75 **ENTER** 5 **ENTER**
 -5 **ENTER** 15 **ENTER** 1 **ENTER** **GRAPH**



Exercises

- Press **Trace**. Find the frequency of each interval using the right and left arrow keys.
- Discuss why the domain is from 40 to 75 for this data set.
- How does the graphing calculator determine the size of the intervals?
- At inauguration, how many presidents have been at least 45, but less than 65?
- What percent of presidents falls in the interval of Exercise 4?
- Can you tell from the histogram how many presidents were inaugurated at age 52? Explain.
- Refer to Example 2 on page 607. How does the stem-and-leaf plot compare to the histogram you have graphed here? Which graph is easier to read?

