

1.7 Scatter Plots and Functions

TEKS a.3, A.1.B, A.1.D

MATERIALS • tape measure • graph paper

QUESTION How can you tell whether a graph represents a function?

A *scatter plot* is a type of display for paired data. Each data pair is plotted as a point. In this activity, you will work in a group to make a scatter plot. You will measure the height of each student in your group and the length of his or her forearm. The length of the forearm is the distance from the elbow to the wrist.

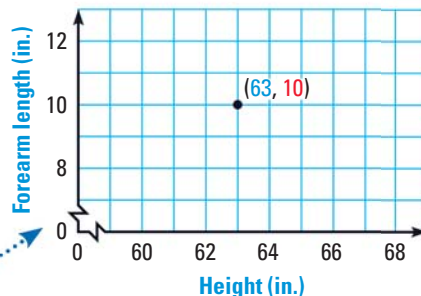


EXPLORE Collect data and make a scatter plot

STEP 1 *Collect data* Measure the height of each student in your group and the length of his or her forearm. Record the results for each student in one row of a table like the one shown.

Height (inches)	Forearm length (inches)
63	10
?	?

STEP 2 *Make a scatter plot* Use graph paper to draw axes labeled as shown. Then plot the data pairs (*height*, *forearm length*). For example, plot the point (63, 10) for a student with a height of 63 inches and a forearm length of 10 inches.



The symbol ↯ on an axis represents a break in the axis.

DRAW CONCLUSIONS Use your observations to complete these exercises

1. Examine your scatter plot. What does it suggest about the relationship between a person's height and the person's forearm length?
2. Compare your table with those of the other groups in your class. Determine which of the tables represent functions and which do not.
3. Is it possible to determine whether a table represents a function by looking at the corresponding scatter plot? *Explain.*