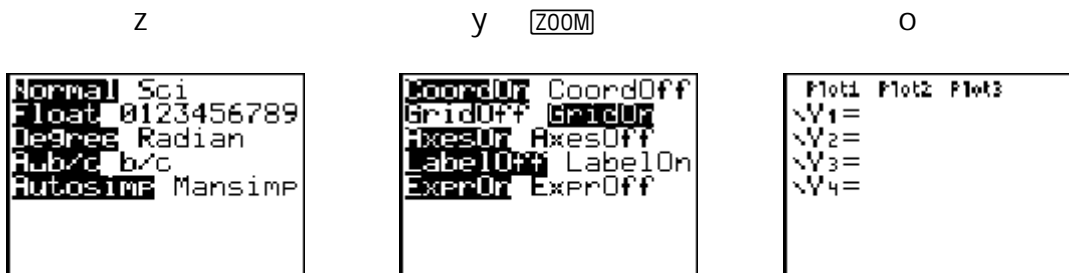


## Graphing Ordered Pairs on the TI-73 Explorer™

### Directions

Students will begin the activity by entering data into two lists. These will be x- and y-coordinates for points that will be graphed as a scatter plot to make a rectangle.

Make sure your handheld settings are as shown below.



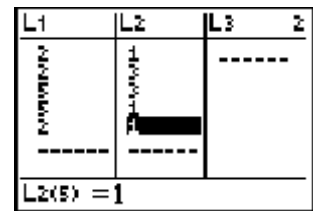
### Exercise 1:

You are going to use lists to draw the rectangle with vertices (2,1), (2,3), (5,3), and (5,1).

Step 1: Entering the coordinates of the points as data

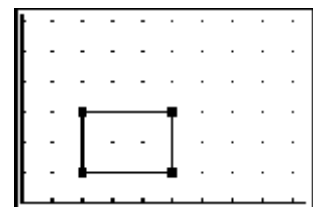
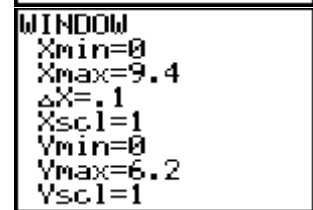
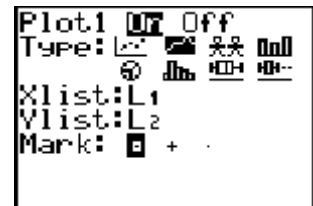
Press LIST and enter the x-values in L<sub>1</sub> and the y-values in L<sub>2</sub> as shown in the screen at the right.

You must enter the point (2,1) twice—once as the starting point of the rectangle and again as the ending point.



Step 2: Making a scatter plot of the data points

- Press y 1, and then press o to select 1:Plot1
- Press | to turn the plot on.
- Move v and h to the second type of plot O and press |
- Move v and press y LIST 1 | to choose L<sub>1</sub> for the Xlist)
- Move v and press y LIST 2 | to choose L<sub>2</sub> for the Ylist.
- Move v and press | to choose the first Mark.
- Press p and enter the values shown at right.  
(Remember to use - for the negative sign.)
- Press s to see the rectangle.



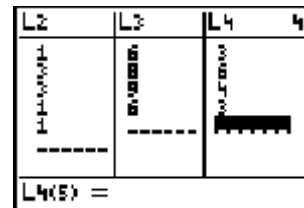
### Exercise 2:

You are going to use  $L_3$  and  $L_4$  to draw a triangle with vertices (6,3), (8,6), and (9,4).

Step 1: Entering the coordinates of the points as data

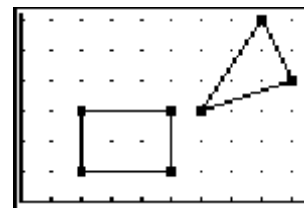
Press  $\boxed{\text{LIST}}$  and move  $\rightarrow$  to enter the x-values in  $L_3$  and the y-values in  $L_4$  as shown in the screen at the right.

You must enter the point (6,3) twice—once as the starting point of the triangle and again as the ending point.



Step 2: Making a scatter plot of the data points

- Press  $y$ ,  $\circ$  and then press  $\boxed{2}$  to select Plot2
- Press  $\boxed{\text{I}}$  to turn the plot on.
- Move  $\downarrow$  and  $\rightarrow$  to the second type of plot  $\text{O}$  and press  $\boxed{\text{I}}$
- Move  $\downarrow$  and press  $y$   $\boxed{\text{LIST}}$   $\boxed{3}$  to choose  $L_3$  for the Xlist
- Move  $\downarrow$  and press  $y$   $\boxed{\text{LIST}}$   $\boxed{4}$  to choose  $L_4$  for the Ylist.
- Move  $\downarrow$  and press  $\boxed{\text{I}}$  to choose the first Mark.
- Press  $\text{s}$  to see the triangle.



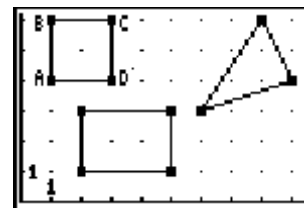
### Exercise 3:

You are going to use  $L_5$  and  $L_6$  to draw a square. Study the graph shown at the right and determine the values needed for the points A, B, C, and D.

Step 1: Entering the coordinates of the points as data

Press  $\boxed{\text{LIST}}$  and enter the x-values in  $L_5$  and the y-values in  $L_6$ .

You must enter the coordinates for the first point twice—once as the starting point of the square and again as the ending point.



## Step 2: Making a scatter plot of the data points

- Press  $y$ ,  $\circ$  and then press  $\boxed{3}$  to select Plot3
- Press  $\boxed{1}$  to turn the plot on.
- Move  $\boxed{\downarrow}$  and  $\boxed{\rightarrow}$  to the second type of plot  $\text{\textcircled{O}}$  and press  $\boxed{1}$
- Move  $\boxed{\downarrow}$  and press  $y$   $\boxed{\text{LIST}}$   $\boxed{5}$  to choose  $L_5$  for the Xlist)
- Move  $\boxed{\downarrow}$  and press  $y$   $\boxed{\text{LIST}}$   $\boxed{6}$  to choose  $L_6$  for the Ylist.
- Move  $\boxed{\downarrow}$  and press  $\boxed{1}$  to choose the first Mark.
- Press  $s$  to see the square.



## Extensions

Have students create their own polygons, record the points used for vertices, and enter these coordinates in lists to graph the polygons.