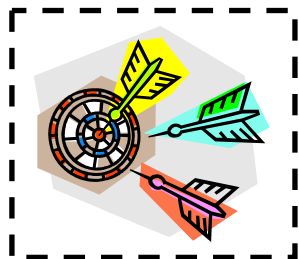


Graphing Numbers by Throwing Darts

Name _____

Date _____



You are throwing darts at a dartboard. You get 12 throws. The score for each dart as follows:

Bulls-eye = 4

Bulls-eye line = 3

Outer circle = 2

Outer circle line = 1.

1. Store 12 random numbers from -5 to 5 in list 1. Then store 12 random numbers from -5 to 5 in list 2. To generate the 12 random numbers from -5 to 5 to the 10th's place, follow these steps:

- Clear home screen and set the **MODE** decimal to **1** place. Press **2nd** **MODE**.
- Type **10** (the range of the numbers going both ways from 0).
- Press **MATH**, and then select **PRB** and **rand** **ENTER** (to generate random numbers).
- Type **(12)** (the number of items you want in the list)
- Type **- 5** (telling calculator to begin at 5 less than 0)
- Type **STO►** **2nd** **LIST** 1 to store the numbers in list 1.
- Repeat a-f and then type **STO►** **2nd** **LIST** 2 to store the numbers in list 2.

2. The numbers in list 1 and list 2 are the ordered pairs to show where the dart hit the target. Plot the ordered pairs from your lists on the graph on the back of this paper.

3. Now, use the TI calculator to draw a dartboard to simulate throwing your 12 darts. The calculator will show you where your darts landed in the target. Follow these steps to create the circles for the target:

- Press **Y=** and clear any functions.
- For the first function, type $\sqrt{-x^2 + 9}$
- For the second function, type $-\sqrt{-x^2 + 9}$
- In the third function, type $\sqrt{-x^2 + 36}$
- In the fourth function, type $-\sqrt{-x^2 + 36}$
- Press **WINDOW** and set Xmin= - 9.4, Xmax= 9.4, Ymin= - 6.3, Ymax= 6.3. Set Xscl and Yscl as 1. Press **GRAPH**.

4. Now show the points that represent the darts by pressing **2nd** **Y=** and constructing a scatter plot using the data from list 1 and list 2. Make sure all other plots are off. Check the location of the points you plotted earlier. Sketch the target around the points.

3. What is the radius of the Bull's Eye?

The target?

4. What is your score?