Going Around In Circles

Math Concepts

-circumference and diameter
-equations

Materials

-TI-83 Plus
-Outline of circular objects drawn on paper

Overview

In this activity we will collect data about the number of items needed to go across and around a circle. A relationship between these quantities will be determined.

Number of items across the circle		Number of items around the circle

1. Count the number of items that can be placed across the widest part of the circle and record above. Estimate the number of items to the nearest one-half. This number represents the _____.

2. Count the number of items that can be placed around the outside of the circle and record the number above. This number represents the _____.

<u>Analyze the Data</u>

4. Enter the data from your group into lists. Use the STAT key then press ENTER ENTER.

5. Graph a scatter plot with diameter values as the independent variable and circumference values as the dependent variable. (2nd Stat Plot).

What does the x –axis represent _____.

What does the y-axis represent _____.
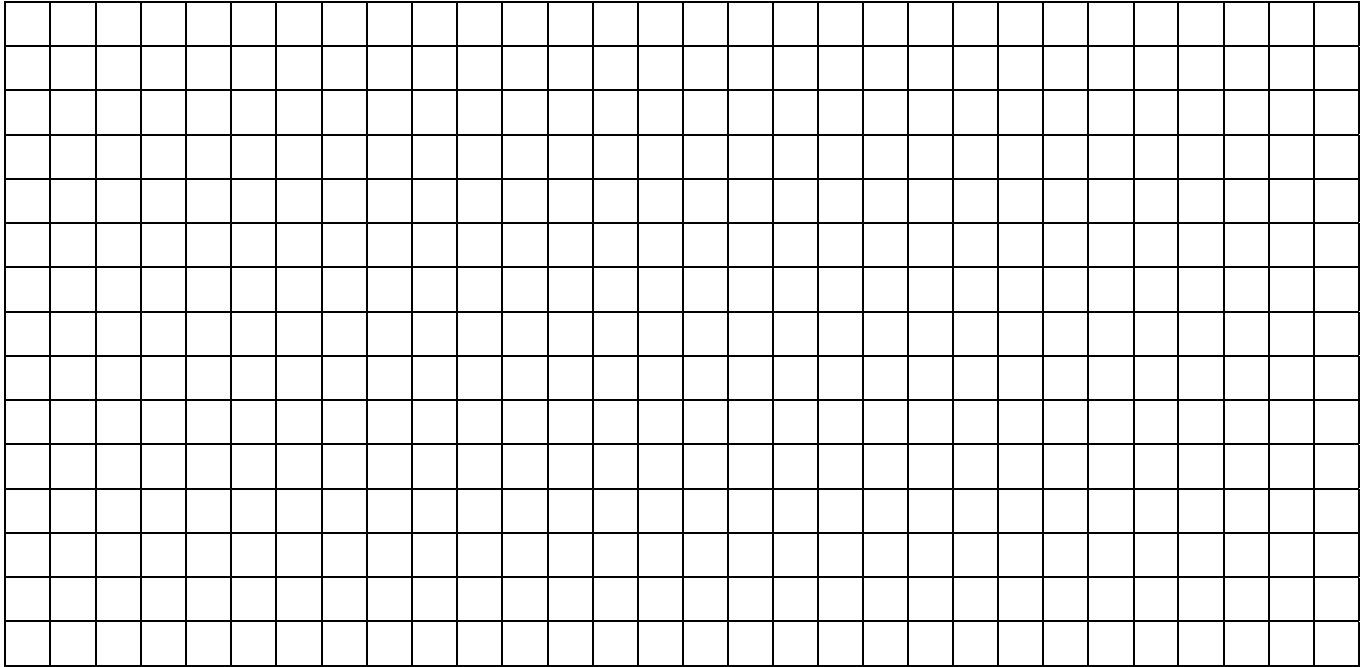
X-min=
X-max=
X-scl=
Y-min=
Y-max =
Y-scl=

6. Write a sentence that explains what the ordered pair means.

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7. Sketch your graph. Label and title your graph. Make sure the intervals match the window.

8. An equation that models this data should be a linear equation of the form y=k*x. Guess and check a value of "k" to get a good fit for the data.

Record your equation (use guess my rule) _____.

Write your equation in an English sentence.

9. What is the slope of the line?

10. What does the "k" stand for in the equation of the diameter and circumference of a circle formula? Answer in complete sentences.