

Name: _____

Pi Day snack scatterplot

In this activity you will explore the relationship between diameter and circumference of circular snacks!

For each snack, measure the diameter and circumference and record them in the table below.

Tips for measuring the diameter - Place the ruler across the center of the snack, with one end of the ruler touching the edge. Record the length on the other edge	Tips for measuring the circumference - Starting with one end of the string, wrap the string around the snack until you've reached your starting point. - The string should be flush against the edge of the snack, but not pulled tight - Pinch or mark the string where it starts to overlap itself - Pick the string up and measure that segment from the end that started the circle to the part you have pinched/marked.
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Data table

Snack	Diameter in centimeters	Circumference in centimeters

Name: _____

Input your data into the NumWorks Regression app (X1 - Diameter, Y1 - Circumference) and answer the questions below.

1. Take a look at the graph, describe the scatter plot.
2. What is the r-value of the scatter plot? What does this tell you about the relationship between diameter and circumference?
3. What is the relationship between diameter and circumference? (formula for circumference in terms of diameter)
4. What would you predict the line of best fit to be for your data?
5. Press OK, and add a Linear Regression model $y = mx + b$
6. What is the slope of the line of best fit?
7. Is your slope what you predicted? If not, why do you think that is?
8. Use your line of best fit to predict the circumference of a snack that has a diameter of 13 centimeters.