

Name: Paula Wood
Grade Level: Geometry / Algebra
Topic: The Pi Line
Class Time Needed: 1 -2 day

- A. Objective
- Students will select the appropriate scale needed to plot data collected (PASS 3).
 - Students will write the equation of a line in the form $y = ax$ (PASS 2).
 - Students will interpret n as a ratio and as a slope (PASS 2.3, 2.5.b).
- B. Materials
- Circular objects of various sizes
 - Masking tape
 - Scissors
 - Graph paper
 - Ruler or measuring tape
 - Individual white boards
 - Graphing calculator (optional)
- C. Resources
- Textbooks
 - <http://illuminations.nctm.org>
- D. Instruction
- Begin by briefly discussing/reviewing approximating values of pi to various places, what pi truly represents, formulas for circumference, slope and ratio.
 - Demonstrate the following process:
 - Wrap the masking tape around the circle (or object), overlapping the tape at the ends.
 - Cut the tape and put it on the board to display circumference. Write the word circumference on the piece of tape.
 - Stretch another piece of masking tape across the widest part of the circle (the diameter) through the center and cut off the ends. Write the word diameter on the strip of tape.
 - For each circle (or object), stretch the tape for the diameter below the x-axis and parallel to it. At its end, position the tape for the circumference of that circle so that one end rests on the x-axis, and stretch the tape vertically. Plot and label the point at the top of the circumference strip.

- c. Distribute the activity sheet. Students will answer the questions as they complete the activity.
 - d. Divide the students into groups. Each group will have several circular objects, a roll of tape, scissors, and a whiteboard. They are to measure and record the diameter and circumference of at least four objects.
 - e. Answer the remaining questions on the activity sheet.
- E. Assessment:
- a. Visual assessment will be made watching the students work in their cooperative groups.
 - b. Students will summarize in their journals the findings of the activity being sure to include the meaning of slope as a ratio and that n is a ratio.
- F. Reflection

I have not completed this lesson, so I am unable to state any conclusions.