

Summary of Activity

Many standard proofs for the area of a circle rely on the circumference of a circle and the irrational number π . These two concepts, however, are basic elements of the circle which can be derived from first principles along with ideas of proportionality and slope.

- i. Using string and rulers, students measure the circumference and diameters of several circular “found” objects in the classroom or outside.
- ii. Students plot the data (diameter, circumference) using any coordinate scales they wish.
- iii. Using rulers, a “best-fit” line is drawn, making sure to hit points in the Cartesian plane which fall on integer coordinates.
- iv. Students next calculate slope of line, usually finding it to be consistently ‘near’ a special number.

Classroom-Derived Data Points (in cm)

1.		6.	
2.		7.	
3.		8.	
4.		9.	
5.		10.	

Graph of data w/best-fit line

