

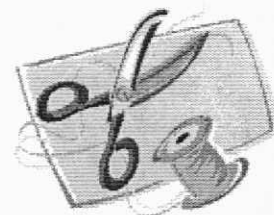
Activity for Discovering Radian Information

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Supplies:

- pre-cut circle from construction paper, or a paper plate
- string or heavy thread
- ruler and protractor
- scissors

(supplies can be cheaply purchased at a Dollar Store)



Steps:

1. Using the string, measure the circumference of the circle (or paper plate). Record this length.
2. Fold the circle (or paper plate) in half. Crease the fold line so that it can be clearly seen.
3. Fold the circle again into quarters. Crease the fold lines.
4. Open the circle. Using the ruler, draw line segments along the fold lines forming four quadrants. Label the points on the edge of the circle that correspond to 0° , 90° , 180° and 270° .
5. The folding process has located the center of the circle. Use your string to measure the radius of the circle. Cut the string to this length. Record this length.
6. Hold one end of the radius length string at the edge of the circle at 0° . Wrap the string around the edge of the circle and mark its ending location. Connect this point to the center of the circle.
7. Using your protractor, find the number of degrees in the central angle formed from 0° to the segment you drew in step 6. In terms of radians, this angle has a measure of one radian. Record this answer.
8. Using your radius length string, continue to wrap the string around the edge of the circle marking its ending locations. Record the number of radian angles that will fit in the circle.
9. Ponder:
If the central angle has a radian measure of 2π , what is the number of degrees in the angle?
Based upon your findings, hypothesize as to how degrees can be converted to radian measure and how radian measure can be converted to degrees.
10. Compare your results with your classmates.