

5.1

Lab

Using a compass, draw a circle of any size on the extra paper provided. Mark the center and a point on your circle.

Draw a straight line from the center of the circle to the other point marked. Lay a Twizzler on this line, and tear it off so that the length of the Twizzler piece is equal to the radius of the circle.

Tear 9 more Twizzler pieces to match the length of the first Twizzler piece. All of the Twizzler pieces whose length equals the length of the radius will be called _____.

Start laying your radians around the circumference of the circle. Record how many radians it takes to go (give a decimal approximation):

$\frac{1}{4}$ the way around the circle (90°)

$\frac{1}{2}$ the way around the circle (180°)

$\frac{3}{4}$ the way around the circle (270°)

all around the circle (360°)

Write your approximations on the board. The class averages for each category are:

$\frac{1}{4}$ the way around the circle (90°)

$\frac{1}{2}$ the way around the circle (180°)

$\frac{3}{4}$ the way around the circle (270°)

all around the circle (360°)

Take a guess, how many radians will it take to cover:

30° :

120° :

317° :

560° :

Eat your twizzlers

Vocabulary

One _____ is the measure of a central angle () that intercepts an arc s equal in length to the radius r of the circle.

Follow the logic.....What is the formula for circumference?

If you laid the circumference in a straight line, how many “radiuses” are there

So how many radians are in 360°

Write that as a proportion

Examples

Find the following angles

the complement of $\theta = \pi/12$

the supplement of $\theta = 5\pi/6$

a coterminal angle to $\theta = 17\pi/6$

Convert the following measurements from degrees to radians

135°

540°

-270°

Convert the following measurements from radians to degrees

$-\pi/2$ rad

2 rad

$9\pi/2$ rad