Unit Circle (Unit Conversion)

Monday, September 23, 2019 7:46 AM

Warm Up

Simplify each expression.

$\frac{4\pi}{3} \cdot 180$ $\quad 180 \cdot \frac{3}{2\pi}$ $\quad \frac{2\pi}{3} \cdot 180$

$180 \cdot \frac{3}{4\pi}$ $\quad \frac{\pi}{4} \cdot 180$ $\quad 180 \cdot \frac{6}{5\pi}$

Essential Question

How can you express angles in a different way then degrees?

Needed Vocab:

- **Radians**

Goal: "I can. . .

Convert Radians into Degrees or Degrees into Radians."

Practice unit conversion

12 feet = ? inches

36 inches = ? feet

19 feet = ? Inches

90 inches = ? feet

Converting between Degrees and Radians

Degrees to radians

Multiply degree measure by

$$\frac{2\pi \text{ radians}}{360^\circ}, \text{ or } \frac{\pi \text{ radians}}{180^\circ}.$$

Radians to degrees

Multiply radian measure by

$$\frac{360^\circ}{2\pi \text{ radians}}, \text{ or } \frac{180^\circ}{\pi \text{ radians}}.$$

Convert 45° to radians.

Convert $\frac{3\pi}{2}$ to degrees.

Convert 15° to radians.

Convert $\frac{4\pi}{3}$ to degrees.

Convert 135° to radians.

Convert $\frac{5\pi}{6}$ to degrees.

Convert 330° to radians.

Convert $\frac{8\pi}{9}$ to degrees.

https://tinyurl.com/yx7saamg

Homework

Have a good time. You're teenagers.