

Converting to Degrees and Radians

CO/LO: I can convert from radians to degrees and degrees to radians.

Vocabulary:

- A radian is a unit of angle measure based on arc length of a circle.
- $360^\circ = \underline{2\pi \text{ radians}}$
- $180^\circ = \underline{\pi \text{ radians}}$

Converting Degrees → Radians

$$\text{Radians} = \text{Degrees} \cdot \left(\frac{\pi}{180} \right)$$

Converting Radians → Degrees

$$\text{Degrees} = \text{Radians} \cdot \left(\frac{180^\circ}{\pi} \right)$$

Examples: Convert each measure to degrees or radians.

$$1. \ 30^\circ \cdot \frac{\pi}{180} = \frac{30\pi}{180} = \boxed{\frac{\pi}{6}}$$

$$2. \ \frac{7\pi}{4} \cdot \frac{180}{\pi} = \frac{1260}{4} = \boxed{315^\circ}$$

$$3. \ \frac{2\pi}{3} \cdot \frac{180}{\pi} = \frac{360}{3} = \boxed{120^\circ}$$

$$4. \ 84^\circ \cdot \frac{\pi}{180} = \frac{84\pi}{180} = \boxed{\frac{7\pi}{15}}$$

