Name _____ Date _____

Radians, Degrees, and Arc Length - Guided Lesson Explanation

Explanation#1

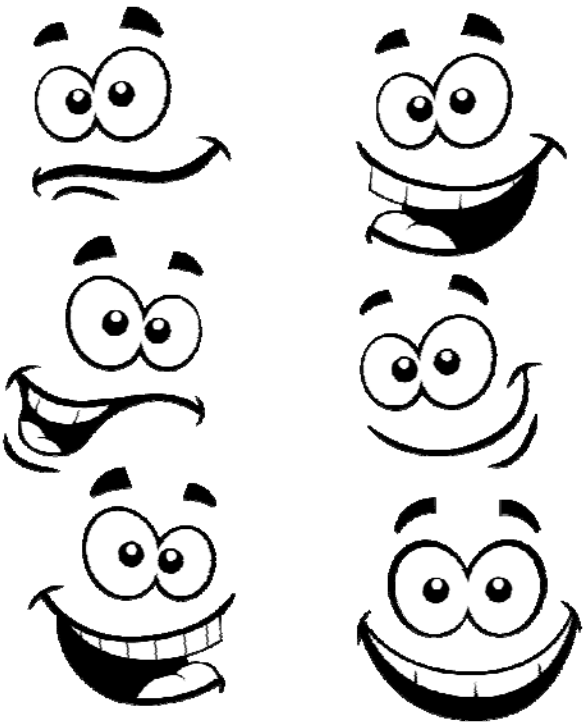
To convert $\pi/4$ radians to degrees.

$= \pi/4 \times 180^{\circ} / \pi$

$= 180/4$

$= 45^{\circ}$

The answer is 45° degrees.



Explanation#2

Then we calculate length of arc.

$s = \theta r = 5\pi/2\,(30)$

$= 75\pi \approx 235.5$ cm

The length of arc is $75\pi \approx 235.5$ cm.

Explanation#3

First we must convert 65.8° to radians.

Radians $= 65.8 \times \Pi/180 = 1.149$ radians

Then we calculate the area.

Area $= \theta r^2/2$

$= 1.149 \times 2.25^2/\,2$

$= 2.908 m^2$

The area of this section of the faceoff circle is $2.908 m^2$.