

Practice Review - Sec 4.1 - Angles & Radian Measures, standard, reference, coterminal

Name: _____

Date: _____

KEY

1. Change the following degree measures to radian measures in terms of π .

* a) $320^\circ =$ _____ radians

$320^\circ \cdot \frac{\pi}{180} = \frac{32\pi}{18} = \frac{16\pi}{9}$

b) $6^\circ =$ _____ radians

$\frac{\pi}{30}$

2. Change the following radian measures to degree measures. Round each to the nearest minute.

* a) $\frac{-13\pi}{3} =$ _____

$\frac{-13\pi}{3} \cdot \frac{60}{\pi} = -780^\circ$

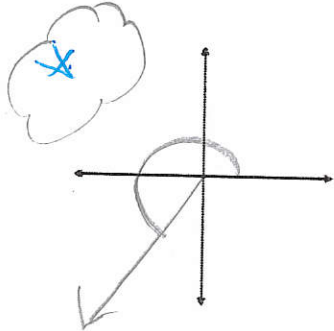
b) $\frac{11\pi}{144} =$ 13.75°

c) $5 =$ _____
 $5 \text{ rad} \cdot \frac{180^\circ}{\pi} = \frac{900}{\pi} \approx 286.6^\circ$

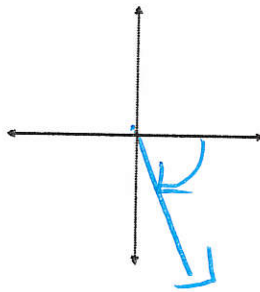
d) $7.35 =$ 421°

3. Draw the following angles in standard position.

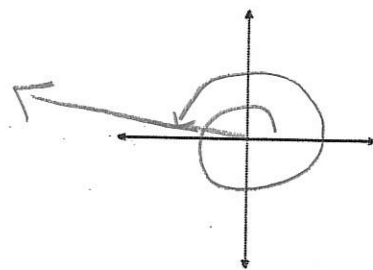
a) $\frac{7\pi}{5}$



b) $\frac{-3\pi}{7}$



c) $527^\circ = 360^\circ + 167^\circ$



4. Find one negative and one positive angle that is coterminal with each of the following that is less than 360 degrees:

a) $\frac{15\pi}{14}$

Pos: $\frac{43\pi}{14}$

Neg: $-\frac{13\pi}{14}$

b) $\frac{-\pi}{5}$

Pos: $\frac{9\pi}{5}$

Neg: $-\frac{11\pi}{5}$

c) 389°

Pos: 29°

Neg: -331°

d) -120°

Pos: 240°

Neg: -480°

± 360
 $\pm 2\pi$

5. Identify all angles that are coterminal with:

a) $75^\circ =$ $75^\circ \pm 360k$

* b) $\frac{\pi}{6} =$ $\frac{\pi}{6} \pm 2\pi k$