

Angles Worksheet

Convert each degree measure into radians and each radian measure into degrees.

1) $-215^\circ \left(\frac{\pi}{180^\circ} \right) = -\frac{43\pi}{36}$

2) $\frac{15\pi}{4} \left(\frac{180^\circ}{\pi} \right) = 675^\circ$

3) $-375^\circ \left(\frac{\pi}{180^\circ} \right) = -\frac{25\pi}{12}$

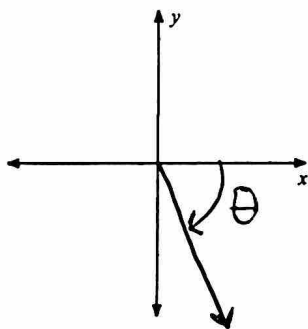
4) $-\frac{31\pi}{9} \left(\frac{180^\circ}{\pi} \right) = -620^\circ$

5) $-\frac{41\pi}{36} \left(\frac{180^\circ}{\pi} \right) = -205^\circ$

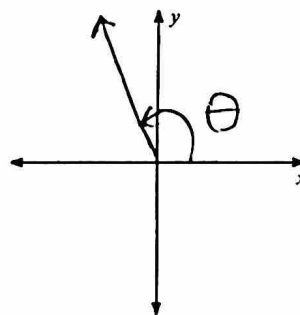
6) $60^\circ \left(\frac{\pi}{180^\circ} \right) = \frac{\pi}{3}$

Draw an angle with the given measure in standard position.

7) -60°



8) 100°



State the quadrant in which the terminal side of each angle lies.

9) -272° I

10) -105° III

Find the reference angle.

11) -190° 10°

12) 190° 10°

Find a positive and a negative coterminal angle for each given angle.

13) 210° $210 + 360 = 570^\circ$
 $210 - 360 = -150^\circ$

14) 90° $90 + 360 = 450^\circ$
 $90 - 360 = -270^\circ$

15) 165° $165 + 360 = 525^\circ$
 $165 - 360 = -195^\circ$

16) -610° $-610 + 360 = -250 + 360 = 110^\circ$
 $-610 - 360 = -970^\circ$