

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

1.) $125^\circ \cdot \frac{\pi}{180^\circ}$

2.) $1.75 \cdot \frac{180^\circ}{\pi}$

3.) $\frac{5\pi}{9} \cdot \frac{180^\circ}{\pi}$

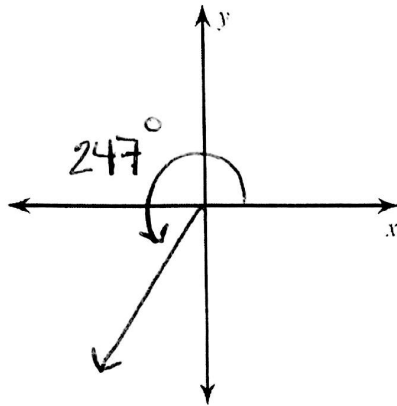
$\frac{25\pi}{36}$

$\frac{315^\circ}{\pi}$ or 100.27°

100°

Sketch the angle in standard position. Don't forget to draw an arrow for the direction. Then state one positive and one negative angle that are co-terminal to the angle given.

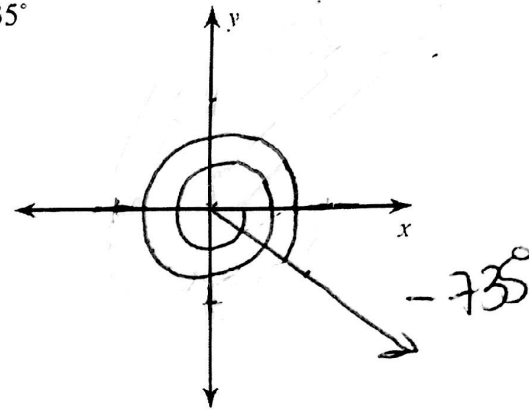
4.) 247°



Positive: 607°

Negative: -113°

5.) -735°

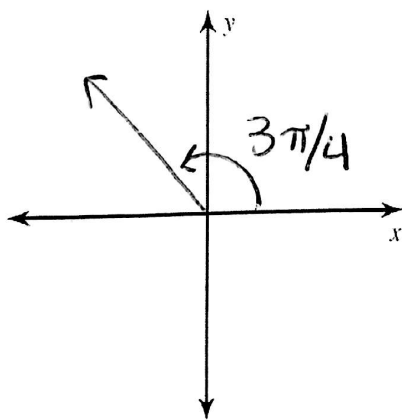


Positive: 345°

Negative: $-375^\circ, -15^\circ$

6.) $\frac{3\pi}{4}$

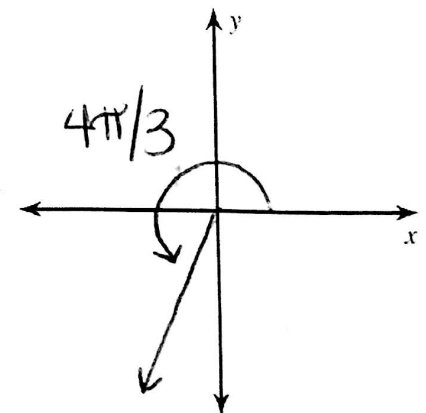
$+ 2\pi \rightarrow + \frac{8\pi}{4}$
 $- 2\pi \rightarrow - \frac{8\pi}{4}$



Positive: $11\pi/4$

Negative: $-5\pi/4$

7.) $\frac{4\pi}{3}$

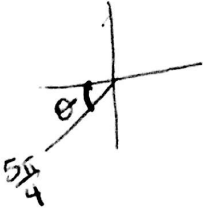


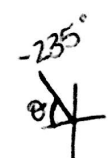
$\pm \frac{6\pi}{3}$

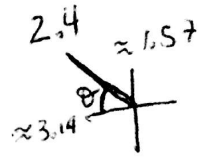
Positive: $10\pi/3$

Negative: $-2\pi/3$


Find the reference angle for the following angles.


8.) $\frac{5\pi}{4}$ $\frac{\pi}{4}$ 

9.) -235° 55° 

10.) 2.4 0.742 

11.) $\frac{5\pi}{6}$ $\frac{\pi}{6}$ 

12.) 645° 75° 

13.) -695° 25° 


Find the six trig functions given the following information.


14.) $(-8, -3)$ $(-8)^2 + (-3)^2 = r^2$
 $\sqrt{73} = r$

15.) $(-9, 3\sqrt{5})$ $(-9)^2 + (3\sqrt{5})^2 = r^2$
 $\sqrt{126} = r$
 $3\sqrt{14} = r$
 $\frac{3\sqrt{5}}{3\sqrt{14}} = \frac{\sqrt{5} \cdot \sqrt{14}}{\sqrt{14} \cdot \sqrt{14}} = \frac{\sqrt{70}}{14}$

$\frac{y}{r}$	$\sin \theta = \frac{-3\sqrt{73}}{73}$	$\csc \theta = -\frac{\sqrt{73}}{3}$
$\frac{x}{r}$	$\cos \theta = \frac{-8\sqrt{73}}{73}$	$\sec \theta = \frac{\sqrt{73}}{-8}$
$\frac{y}{x}$	$\tan \theta = \frac{3}{8}$	$\cot \theta = \frac{8}{3}$

$\frac{y}{r}$	$\sin \theta = \frac{\sqrt{70}}{14}$	$\csc \theta = \frac{\sqrt{70}}{5}$
$\frac{x}{r}$	$\cos \theta = \frac{-3\sqrt{14}}{14}$	$\sec \theta = \frac{\sqrt{14}}{-3}$
$\frac{y}{x}$	$\tan \theta = \frac{\sqrt{5}}{-3}$	$\cot \theta = \frac{-3\sqrt{5}}{5}$

16) $\sec A = \frac{-7}{2\sqrt{10}}$ $\pi < \theta < \frac{3\pi}{2}$ 
 $(2\sqrt{10})^2 + y^2 = 49$
 $40 + y^2 = 49$
 $y = 3$

17.) $\tan B = -\frac{\sqrt{5}}{12}$ $90^\circ < \theta < 180^\circ$ 
 $(-12)^2 + (-\sqrt{5})^2 = r^2$
 $\sqrt{149} = r$

$\frac{y}{r}$	$\sin A = \frac{-3}{7}$	$\csc A = -\frac{7}{3}$
$\frac{x}{r}$	$\cos A = \frac{-2\sqrt{10}}{7}$	$\sec A = \frac{-7\sqrt{10}}{20}$
$\frac{y}{x}$	$\tan A = \frac{3\sqrt{10}}{20}$	$\cot A = \frac{2\sqrt{10}}{3}$

$\frac{y}{r}$	$\sin B = \frac{\sqrt{745}}{149}$	$\csc B = \frac{\sqrt{745}}{5}$
$\frac{x}{r}$	$\cos B = \frac{-12\sqrt{149}}{149}$	$\sec B = \frac{-\sqrt{149}}{12}$
$\frac{y}{x}$	$\tan B = \frac{-\sqrt{5}}{12}$	$\cot B = \frac{-12\sqrt{5}}{5}$