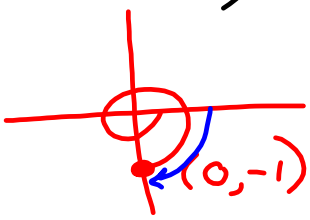
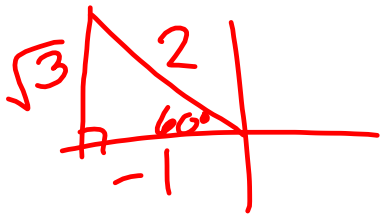
$\sin(-450^\circ) = -1$



$\csc(90^\circ) = 1$

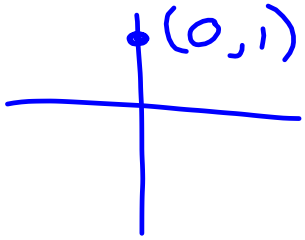
$\cot(-90^\circ) = \frac{0}{-1} = 0$

$\cos(120^\circ) = \frac{-1}{2}$



$\tan 810^\circ$ is undefined

$\frac{\sin 90^\circ}{\cos 90^\circ} \div 0$



Common angles:
(memorize!)

$\frac{\pi}{6} = 30°$

$\frac{\pi}{4} = 45°$

$\frac{\pi}{3} = 60°$

Note:

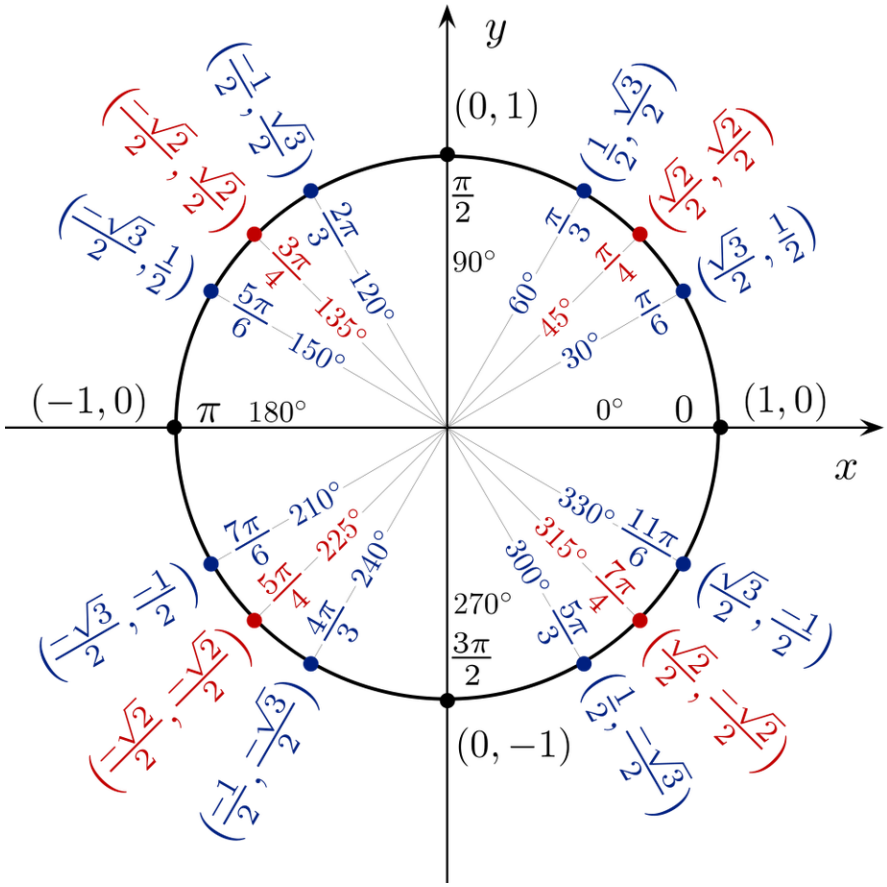
$\frac{k\pi}{6} \rightarrow 30°\ ref.\angle$

$\frac{k\pi}{4} \rightarrow 45°\ ref.\angle$

$\frac{k\pi}{3} \rightarrow 60°\ ref.\angle$

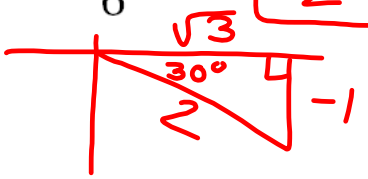
$\frac{k\pi}{2} \rightarrow 90°\ or\ 270°$

$k\pi \rightarrow 0°\ for\ k\ even;$
$180°\ for\ k\ odd$

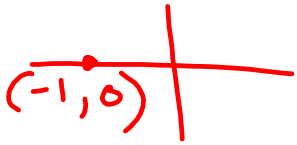


Evaluate the trigonometric function of an angle given in radians

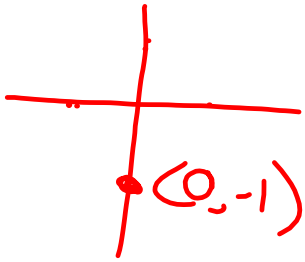
$\cos\frac{11\pi}{6} =$ $\frac{\sqrt{3}}{2}$



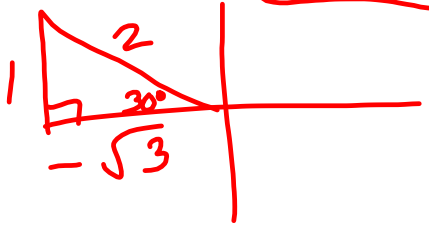
$\sin 329\pi =$ 0



$\tan\frac{7\pi}{2} =$ undefined

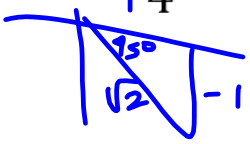


$\sec\frac{5\pi}{6} =$ $-\frac{2}{\sqrt{3}}$



$\cot\frac{3\pi}{4} = -1$

$\sec\frac{7\pi}{4} = \sqrt{2}$



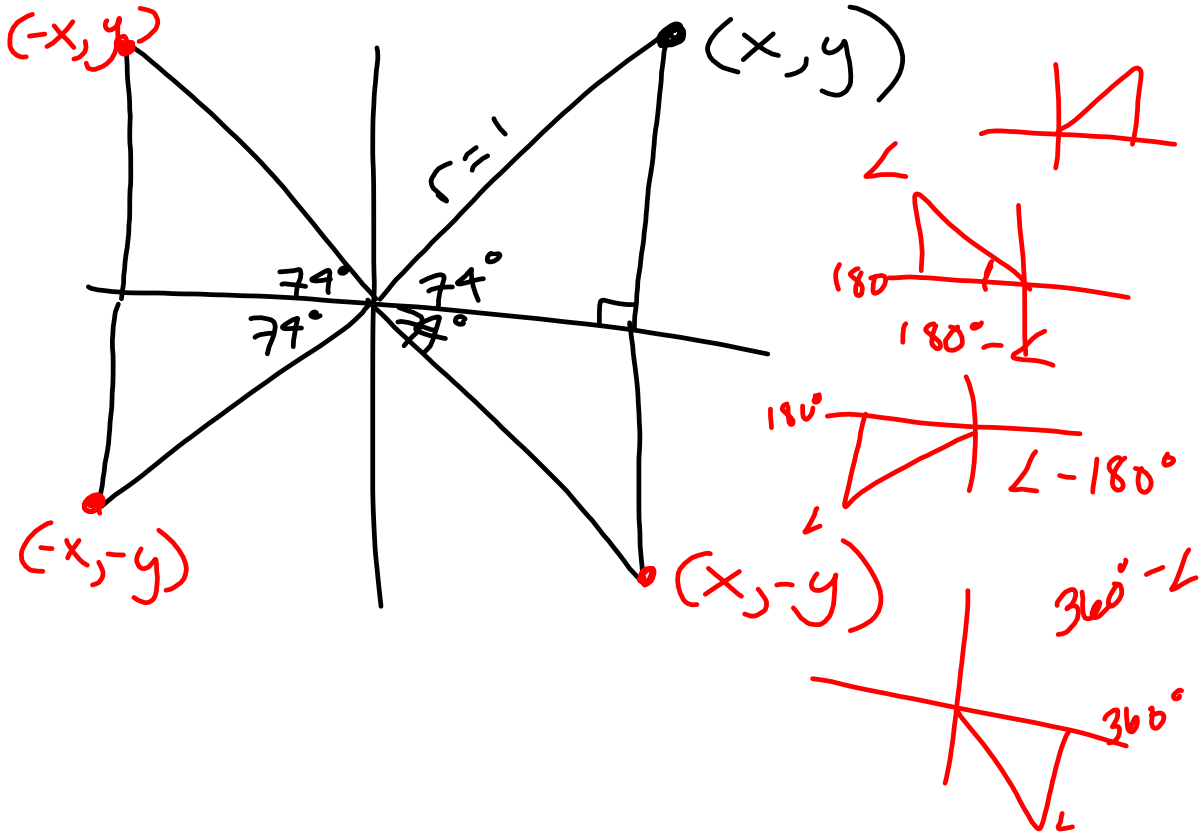
$\csc\left(-\frac{2\pi}{3}\right) = \frac{-2}{\sqrt{3}}$

$\csc\frac{3\pi}{2} = -1$

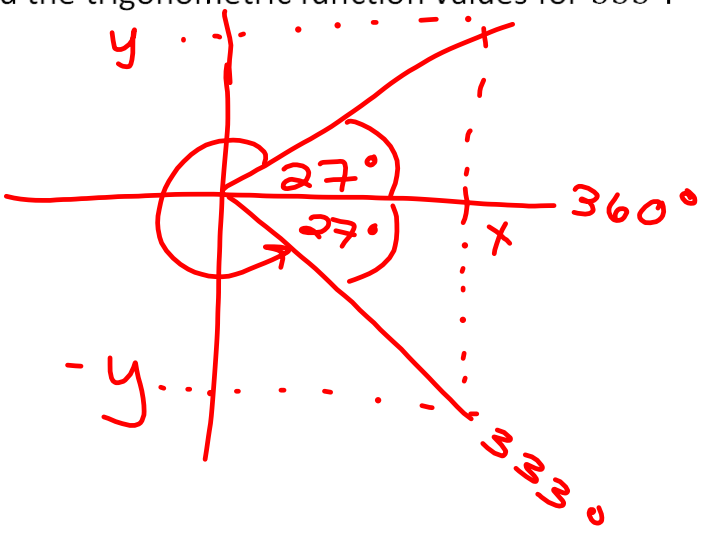
$\sin\frac{4\pi}{3} = -\frac{\sqrt{3}}{2}$

$\tan\frac{7\pi}{6} = \frac{1}{\sqrt{3}}$

Angles with the same reference angles have the same trig function values.



80. Given that $\sin 27° \approx 0.4540$, $\cos 27° \approx 0.8910$, and $\tan 27° \approx 0.5095$, find the trigonometric function values for $333°$.



$\sin 333° = -0.4540$

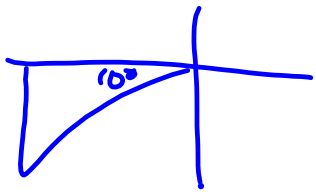
$\cos 333° = 0.8910$

$\tan 333° = -0.5095$

$\csc 333° = \frac{-1}{0.4540}$

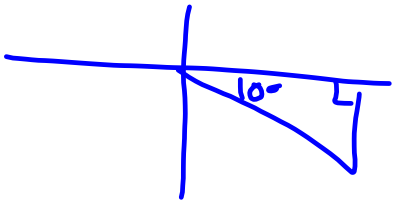
Write in terms of sin & cos of 10°.

$\sin 190° = \boxed{-\sin 10°}$



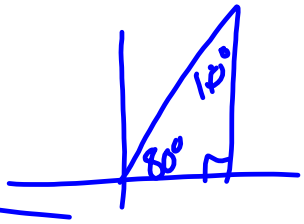
$\tan 710° = -\tan 10°$

$= \boxed{\frac{-\sin 10°}{\cos 10°}}$



$\cos 80° = \boxed{\sin 10°}$

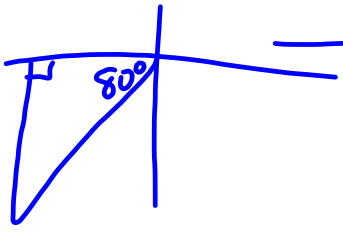
cofunctions

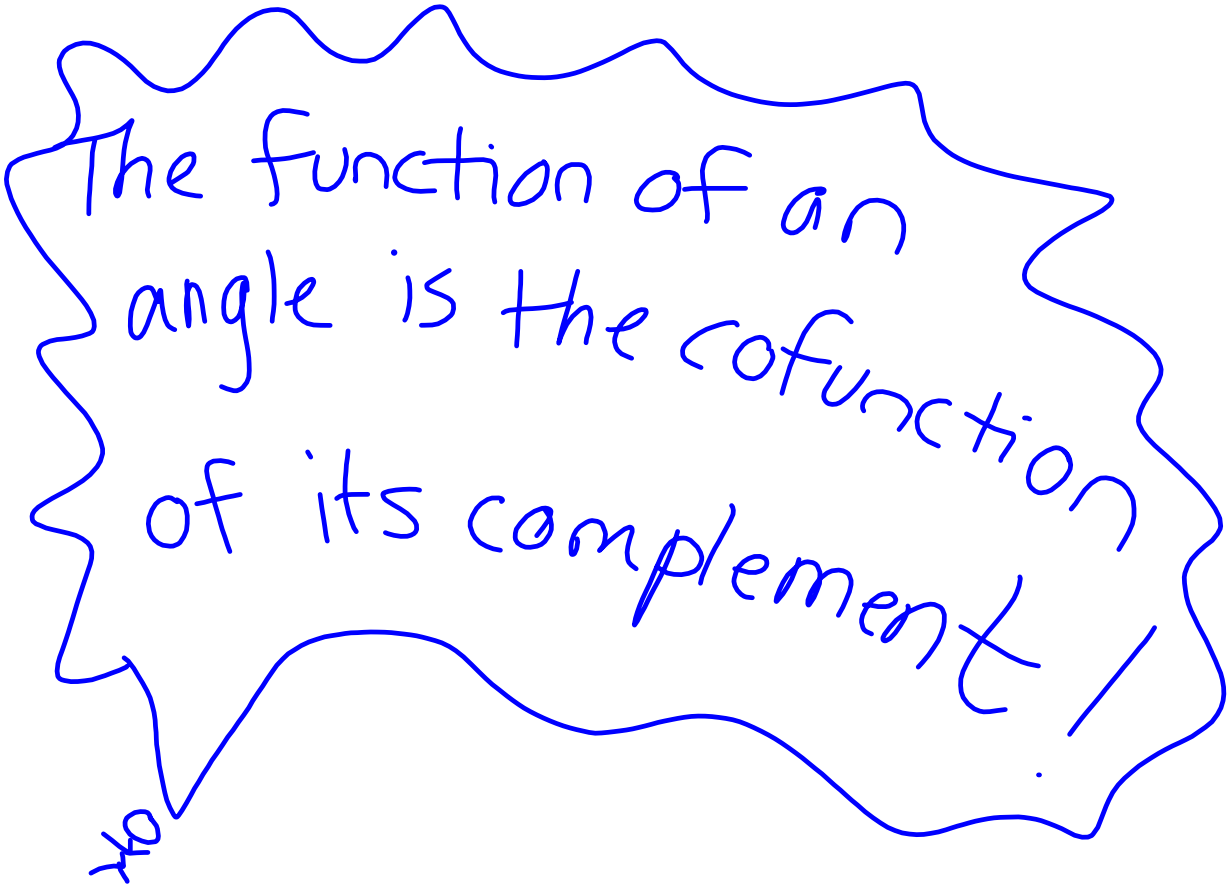


$\sec 260° = -\sec 80°$

$= -\csc 10°$

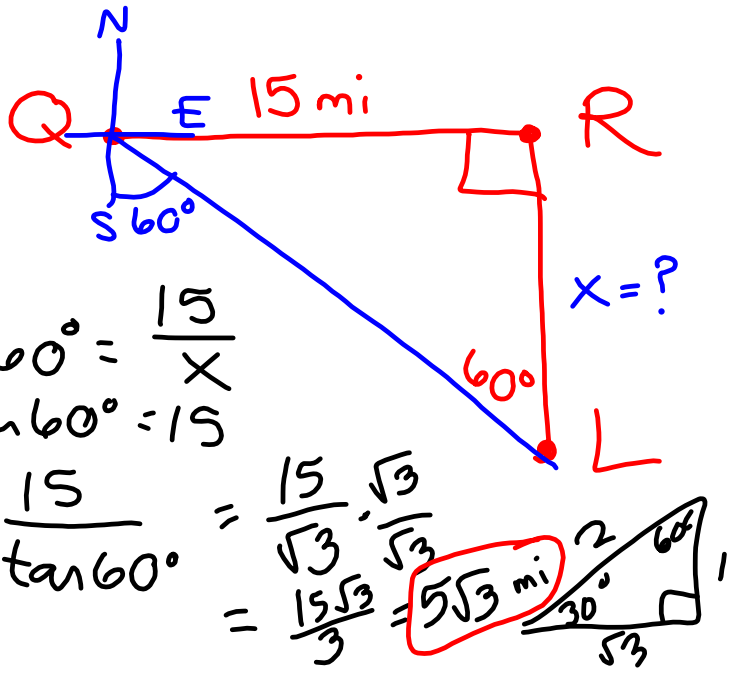
$= \boxed{\frac{-1}{\sin 10°}}$





Review: Applications of right triangles

A lightning detector at point Q is situated 15 miles west of a central fire station at point R. The bearing from Q to where lightning hits due south of R is S60°E. How far is the hit from point R?



$\tan 60° = \frac{15}{x}$

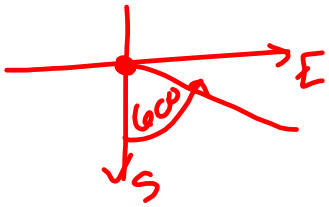
$x \tan 60° = 15$

$x = \frac{15}{\tan 60°} = \frac{15}{\sqrt{3}} \cdot \frac{\sqrt{3}}{\sqrt{3}} = \frac{15\sqrt{3}}{3} = 5\sqrt{3}$ mi

L

heading
clockwise from N

bearing
S60°E
60° east of south



Homework for Test #1:

HW #1 - Submitted 8/15:

- 5.1 #1, 2, 7-18 all, 31-48 all, 55-74 all
- 4 angular speed problems on handout

HW #2 - Due Friday 8/22:

- 5.2 #1-75odd
- 5.3 #1-35odd; 37-48all; 61-68all
- 5.4 #1-22 all;
- 5.4 #33-67odd; 71-97odd

Due Monday 8/25:

- Test #1 Practice Problems (handout)

Test #1 - Wednesday, 8/27

Quiz #2 - This Friday, 8/22