Today's Plan:

Learning Target (standard): I will evaluate the trigonometric values of common angles. I will use these to evaluate trigonometric expressions.

Students will: Complete practice problems over previous concepts at the boards, put up homework problems on the board and make necessary corrections to their own work, take notes over new material and complete practice problems over new concepts.

Teacher will: Provide practice problems over previous concepts, check homework problems for accuracy and provide students feedback, describe and provide examples of new concepts and assign students assessment problems over new concepts.

Assessment: Board work, homework check and homework assignment

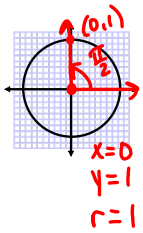
Differentiation: Students will work at the board, go over and correct homework at their seats, actively engage in lecture over new concepts, practice new concepts with the aid of other students and the teacher and complete homework assignment.

Find the exact value.

$$\csc\frac{\pi}{2}+\cot\frac{\pi}{2}$$

$= 1 + 0$

$= 1$



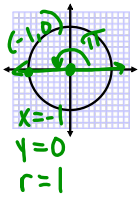
Mar 8-12:09 PM

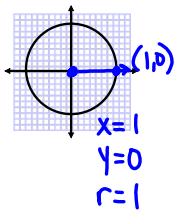
Find the exact value.

$$\tan\pi-\cos 0$$

$= 0 - 1$

$= -1$





Mar 8-12:09 PM

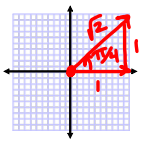
Find the exact value.

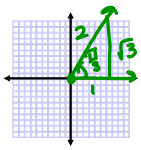
$$2\sec\frac{\pi}{4}+4\cot\frac{\pi}{3}$$

$=2(\sqrt{2})+4\left(\frac{\sqrt{3}}{3}\right)$

$=2\sqrt{2}+\frac{4\sqrt{3}}{3}$

$=\frac{6\sqrt{2}+4\sqrt{3}}{3}$





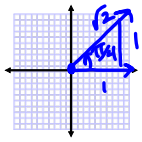
Mar 8-12:10 PM

Find the exact value.

$$\sin\frac{\pi}{4}-\cos\frac{\pi}{4}$$

$=\frac{\sqrt{2}}{2}-\frac{\sqrt{2}}{2}$

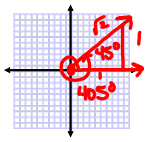
$=0$



Mar 8-12:11 PM

Find the exact value.

$$\sin 405^\circ = \frac{\sqrt{2}}{2}$$

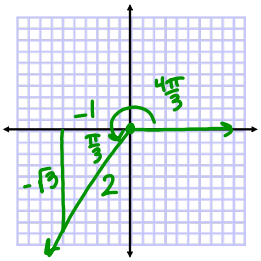


Nov 21-11:25 AM

Even & Odd Properties

[redacted]

Find the trigonometric values for $\frac{4\pi}{3}$



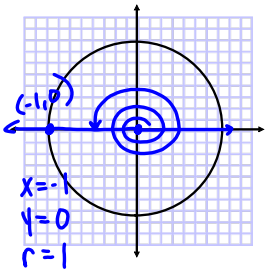
$\sin\frac{4\pi}{3} = -\frac{\sqrt{3}}{2}$ $\csc\frac{4\pi}{3} = \frac{-2\sqrt{3}}{3}$

$\cos\frac{4\pi}{3} = -\frac{1}{2}$ $\sec\frac{4\pi}{3} = -2$

$\tan\frac{4\pi}{3} = \sqrt{3}$ $\cot\frac{4\pi}{3} = \frac{\sqrt{3}}{3}$

Nov 21-11:15 AM

Find the trigonometric values for 5π



$\sin 5\pi = 0$ $\csc 5\pi = -$

$\cos 5\pi = -1$ $\sec 5\pi = -1$

$\tan 5\pi = 0$ $\cot 5\pi = -$

Nov 21-11:15 AM

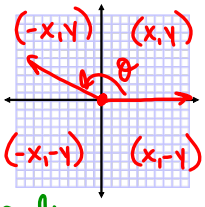
Name the quadrant in which the angle lies. Why?

$\sin\theta > 0$

$\cos\theta < 0$

$\sin\theta = \frac{y}{r}$

$\cos\theta = \frac{x}{r}$



r is radius

$\sin\theta = \frac{y}{r} > 0$

$\cos\theta = \frac{x}{r} < 0$

Since $r = \sqrt{x^2 + y^2}$, r is always positive. In order for $\sin\theta > 0$, the y-value must be positive. In order for $\cos\theta < 0$, the x-values must be negative. This happens in QII.

Nov 21-11:27 AM

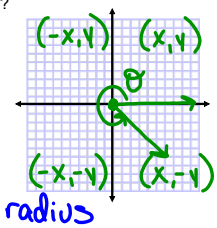
Name the quadrant in which the angle lies. Why?

$\sin\theta < 0$

$\tan\theta < 0$

$\sin\theta = \frac{y}{r} < 0$

$\tan\theta = \frac{y}{x} < 0$



r is a radius

$\sin\theta = \frac{y}{r} < 0$

$\tan\theta = \frac{y}{x} < 0$

Since $r = \sqrt{x^2 + y^2}$, r is always positive. In order for $\sin\theta < 0$, the y-value must be negative. In order for $\tan\theta < 0$, the x-value and the y-values must have opposite signs. From above, the y-value must be negative, so the x-value must be positive. This happens in QIV.

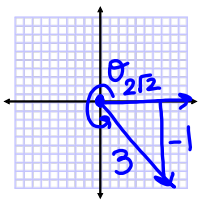
Nov 21-11:27 AM

Find the exact value of the remaining trig functions.

$\sin\theta = -\frac{1}{3} = \frac{y}{r}$ $\csc\theta = -3$

$\cos\theta = \frac{2\sqrt{2}}{3} = \frac{x}{r}$ $\sec\theta = \frac{3\sqrt{2}}{4}$

$\tan\theta = \frac{-\sqrt{2}}{4}$ $\cot\theta = -2\sqrt{2}$



Nov 21-11:29 AM

Even or Odd Function?

$\sin(-\theta) = -\sin\theta$

$\sin 30^\circ = \frac{1}{2}$ ∴ odd

$\sin(-30^\circ) = -\frac{1}{2}$

$\cos(-\theta) = \cos\theta$

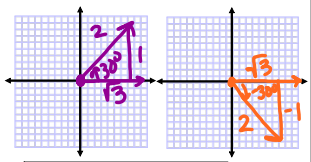
$\cos 30^\circ = \frac{\sqrt{3}}{2}$ ∴ even

$\cos(-30^\circ) = \frac{\sqrt{3}}{2}$

$\tan(-\theta) = -\tan\theta$

$\tan 30^\circ = \frac{\sqrt{3}}{3}$ ∴ odd

$\tan(-30^\circ) = -\frac{\sqrt{3}}{3}$



Even: y-axis

f(-x) = f(x)

Odd: origin

f(-x) = -f(x)

Nov 21-2:53 PM

Even or Odd Function?

$\csc(-\theta) = -\csc\theta$

$\therefore$ odd

$\sec(-\theta) = \sec\theta$

$\therefore$ even

$\cot(-\theta) = -\cot\theta$

$\therefore$ odd

Nov 21-2:53 PM

Assignment:

p.404 #4-64 (by 4)

- #20 & 24 - explain why
- #52 - 64 - find normally using a diagram

* Draw ALL appropriate diagrams *

Apr 14-7:59 AM