Today's Plan:

Learning Target (standard): I will simplify inverse trigonometric expressions and solve trigonometric equations.

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 and take a quiz.

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

Assessment: Board work, homework check and quiz

Differentiation: Students will work at the board, go over and correct homework at their seats, and actively engage in assessment problems.

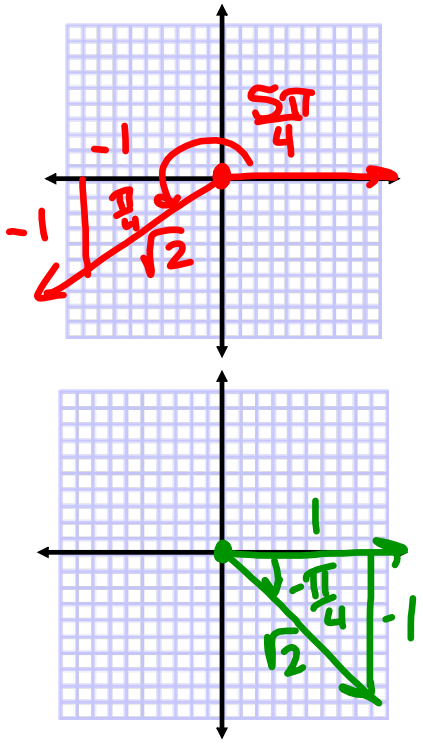
Go over any questions you may have!

Find the exact value of the expression.

$$\sin^{-1}\left(\cos\frac{5\pi}{4}\right)$$

$= \sin^{-1}\left(-\frac{\sqrt{2}}{2}\right)$

$= -\frac{\pi}{4}$



Solve the equation for $0 \le \theta \le 2\pi$.

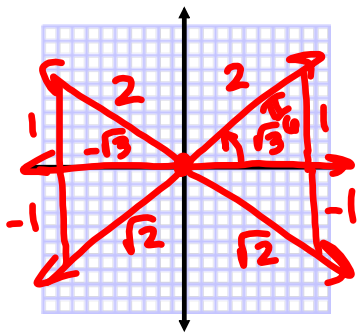
$$4\cos^2\theta - 3 = 0$$

$4\cos^2\theta = 3$

$\cos^2\theta = \frac{3}{4}$ $\quad \pm\sqrt{}$

$\cos\theta = \frac{\sqrt{3}}{2} \quad \cos\theta = -\frac{\sqrt{3}}{2}$

$\theta = \frac{\pi}{6}, \frac{5\pi}{6}, \frac{7\pi}{6}, \frac{11\pi}{6}$

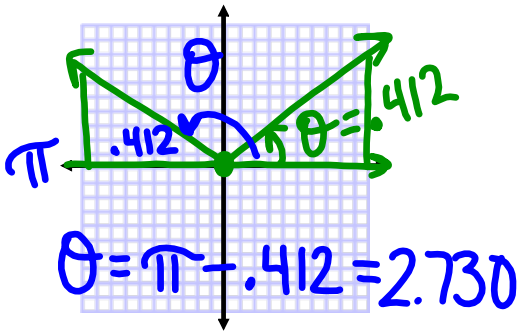


Solve the equation for $0 \le \theta \le 2\pi$.

$$\sin\theta = 0.4$$

$\sin^{-1}(0.4) = \theta$

$\theta = 0.412, 2.730$



Solve the equation for $0 \le \theta \le 2\pi$.

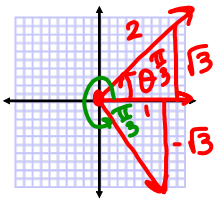
$$\tan\theta = 2\sin\theta$$

$\frac{\sin\theta}{\cos\theta} = 2\sin\theta$

$\frac{1}{\cos\theta} = 2$

$\sec\theta = 2 = \frac{r}{x}$

$\theta = \frac{\pi}{3}, \frac{5\pi}{3}$



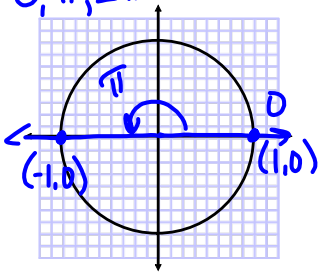
$\frac{\sin\theta}{\cos\theta} - 2\sin\theta = 0$

$\sin\theta\left(\frac{1}{\cos\theta} - 2\right) = 0$

Cannot divide out a variable value & not address it

$\sin\theta = 0 = \frac{y}{r}$ $y=0$ $r=1$ $x=1,-1$

$\theta = 0, \pi, 2\pi$



$\theta = 0, \frac{\pi}{3}, \pi, \frac{5\pi}{3}, 2\pi$