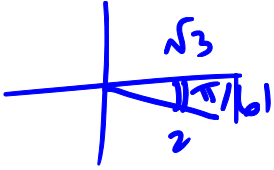


Trigonometry Cover Page; What I know and can do

Question	First Day	Last Day
What is a radian?		measure of an angle 1 rad is when The arc = the radius
If $\theta = \frac{11\pi}{6}$ what are the 6 trig ratios? 		$\cos\theta = \frac{\sqrt{3}}{2}$ $\sec\theta = \frac{2}{\sqrt{3}}$ $\sin\theta = -\frac{1}{2}$ $\csc\theta = -2$ $\tan\theta = -\frac{1}{\sqrt{3}}$ $\cot\theta = -\sqrt{3}$
(solving)		
What is a sinusoidal function?		a function that have a period. Has a wave shape
What is the amplitude and period of the functions: $g_k(x) = 5f_k\left(\frac{\pi}{3}(x-1)\right) + 2$ Given $f_1(x) = \sin x$ and $f_2(x) = \tan x$		g_1 amp = 5 $T = 6$ g_2 amp = none $T = 3$
(reasoning)		
What is the domain of the inverse trig functions?		arc sin x domain $[-1, 1]$ arc cos x domain $[-1, 1]$ arc tan x domain \mathbb{R}

Determine the solution to

$$4 = 7 \cos \left(\underbrace{3 \left(x + \frac{\pi}{12} \right)}_{\theta} \right) - 1$$

(solving)

Why is solving trig equations with sine more involved than solving trig equations with tangent or cosine?

(communication)

$$4 = 7 \cos \theta - 1$$

$$5 = 7 \cos \theta$$

$$\frac{5}{7} = \cos \theta \Rightarrow \theta = \pm 0.775 + 2\pi n$$

$$3 \left(x + \frac{\pi}{12} \right) = \pm 0.775 + 2\pi n$$

$$x + \frac{\pi}{12} = \pm 0.258 + \frac{2}{3}\pi n$$

$$x = -0.004 \text{ or } -0.520 + \frac{2}{3}\pi n, n \in \mathbb{Z}$$

$\sin x$ is odd so more work to find 2nd solution

if x_0 is a soln. then $\pi - x_0$ or $-\pi - x_0$

$\cos x$ is even and 1 period of \cos is $[-\pi, \pi]$