Pre-Calculus

Name Key ID: 1

Graphing Trig Quiz Review

Date _____ Period ____

Graph each function using radians.

1) $y = 4\sin\left(2\theta + \frac{7\pi}{6}\right) - 2$

$4\sin 2\left(\theta + \frac{7\pi}{12}\right) - 2$

a k

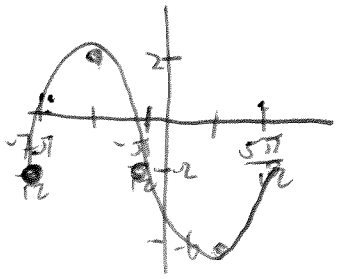
amp: 4

per: $\frac{2\pi}{2} = \pi$

shift: L $\frac{7\pi}{12}$ D 2

axis: $-\frac{7\pi}{12} \to \frac{5\pi}{12}$

axis: $-6 \to -2 \to 2$



2) $y = 2\sin\left(4\theta + \frac{\pi}{2}\right) + 1$

$2\sin 4\left(\theta + \frac{\pi}{8}\right) + 1$

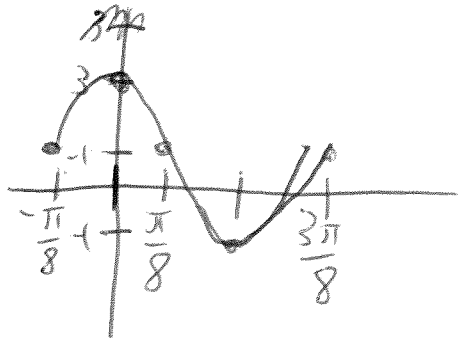
amp: 2

per: $\frac{2\pi}{4} \to \frac{\pi}{2}$

shift: L $\frac{\pi}{8}$, U 1

x: $-\frac{\pi}{8} \to \frac{3\pi}{8}$

y: $-1 \to 1 \to 3$



3) $y = 2\cos\left(\frac{\theta}{4} - \frac{\pi}{6}\right) + 2$

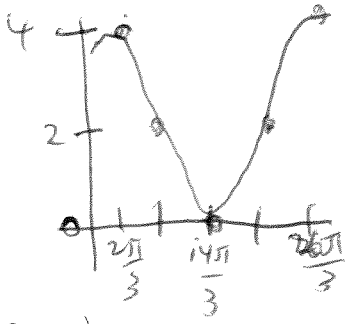
$2\cos\frac{1}{4}\left(\theta - \frac{2\pi}{3}\right) + 2$

amp: 2

per: 8π r 2π

x: $\frac{2\pi}{3} \to \frac{26\pi}{3}$

y: $0 \to 2 \to 4$



4) $y = 4\cos\left(2\theta + \frac{\pi}{4}\right) + 2$

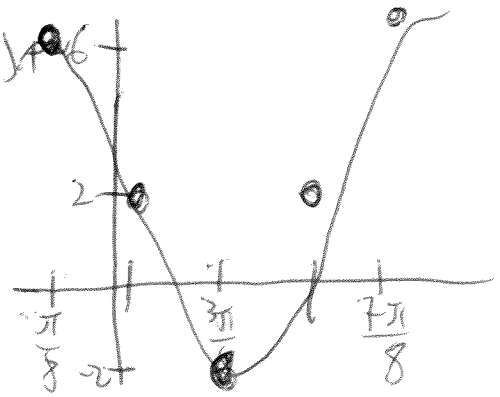
$4\cos 2\left(\theta + \frac{\pi}{8}\right) + 2$

amp: 4

per: π

x: $-\frac{\pi}{8} \to \frac{7\pi}{8}$

y: $-2 \to 2 \to 6$



5) $y = \frac{1}{2} \cdot \tan\left(\frac{\theta}{2} + \frac{\pi}{4}\right) - 2$

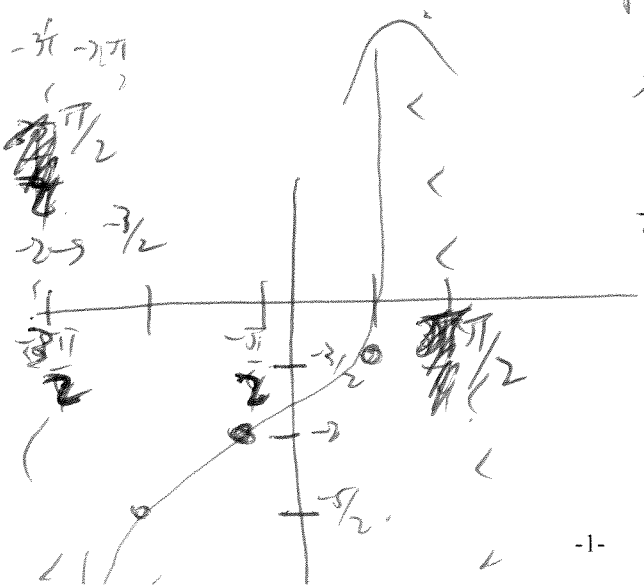
$\frac{1}{2}\tan\frac{1}{2}\left(\theta + \frac{\pi}{2}\right) - 2$

amp: $\frac{1}{2}$

per: 2π $-\frac{3\pi}{2} \to \frac{\pi}{2}$

x: $-\frac{3\pi}{2} \to \frac{\pi}{2}$

y: $-\frac{5}{2} \to -2 \to -\frac{3}{2}$



6) $y = 2\tan\left(\frac{\theta}{3} - \frac{15\pi}{6}\right) + 2$

$2\tan\frac{1}{3}\left(\theta - \frac{15\pi}{6}\right) + 2$

up 2

right $\frac{5\pi}{2}$

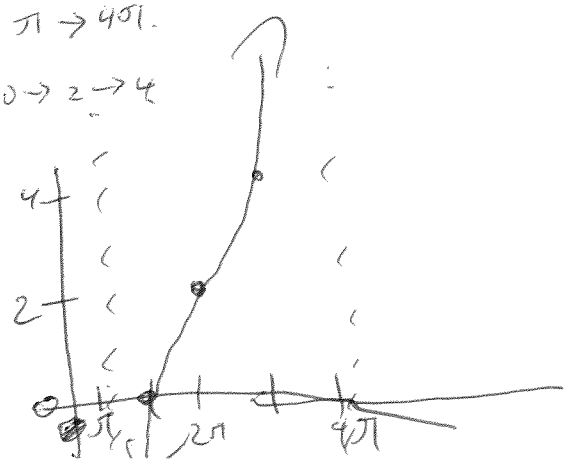
amp: 2

per: $\frac{\pi}{1/3} = 3\pi$ $-\frac{3\pi}{2} \to \frac{3\pi}{2}$

x: $\frac{3\pi}{2} \to \frac{9\pi}{2}$

$\pi \to 4\pi$

y: $0 \to 2 \to 4$



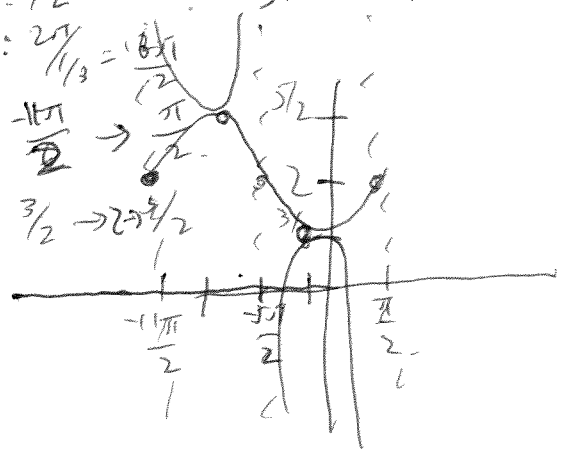
7) $y = \frac{1}{2} \cdot \csc\left(\frac{\theta}{3} + \frac{11\pi}{6}\right) + 2$

amp: 1/2

Per: $2\pi / 1/3 = 6\pi$

x: $\frac{-11\pi}{2} \rightarrow \frac{\pi}{2}$

y: $3/2 \rightarrow 2 \rightarrow 3/2$



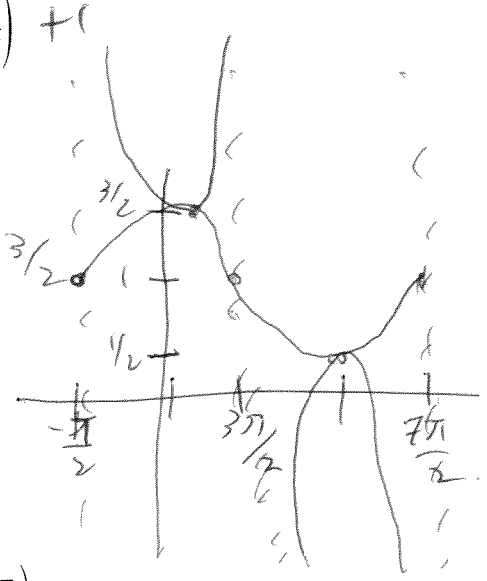
8) $y = 3\csc\left(\frac{\theta}{2} + \frac{\pi}{4}\right) + 1$

amp: 3

per: 4π

x: $-\pi/2 \rightarrow \frac{7\pi}{2}$

y: $1/2 \rightarrow 1 \rightarrow 3/2$



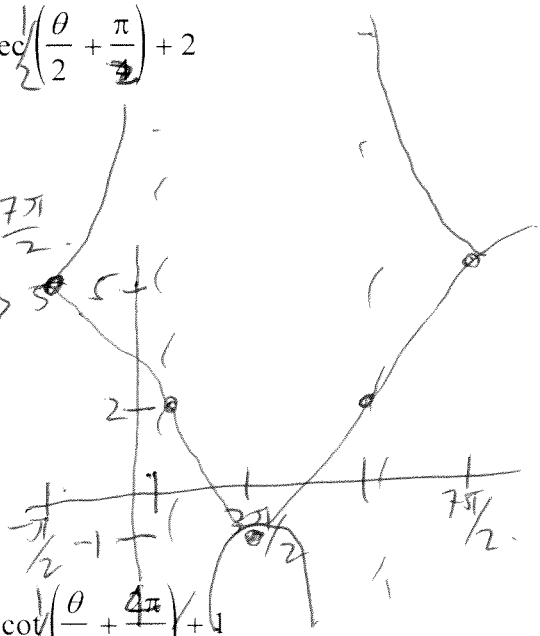
9) $y = 3\sec\left(\frac{\theta}{2} + \frac{\pi}{2}\right) + 2$

amp: 3

per: 4π

x: $-\frac{\pi}{2} \rightarrow \frac{7\pi}{2}$

y: $-1 \rightarrow 2 \rightarrow 5$



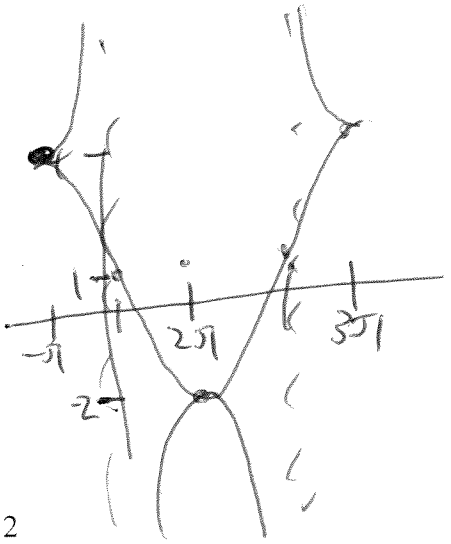
10) $y = 3\sec\left(\frac{\theta}{2} + \frac{\pi}{2}\right) + 1$

amp: 3

per: 4π

x: $-\pi \rightarrow 3\pi$

y: $-2 \rightarrow 1 \rightarrow 4$



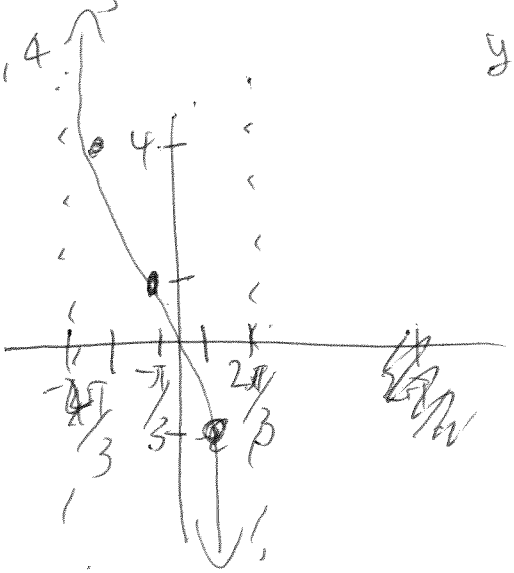
11) $y = 3\cot\left(\frac{\theta}{2} + \frac{4\pi}{3}\right) + 1$

amp: 3

per: 2π

x: $-4\pi/3 \rightarrow 2\pi/3$

y: $-2, 1, 4$



12) $y = 2\cot\left(2\theta - \frac{5\pi}{12}\right) - 2$

amp: 2

per: $\pi/2$

x: $\frac{5\pi}{12} \rightarrow \frac{10\pi}{12}$

y: $-4, -2, 2$