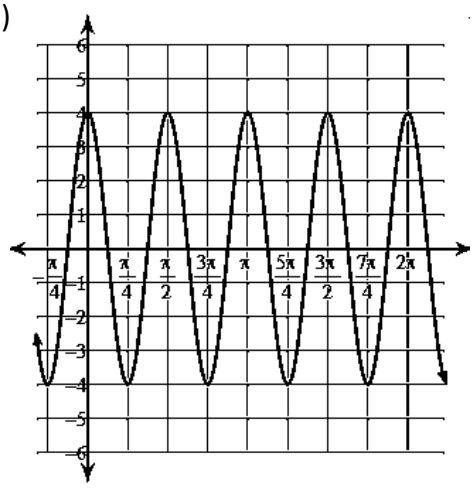
Secondary Math 3 Lite Name: Key Period: _____

Unit 10 Review

Using radians, find the following from the given graphs.

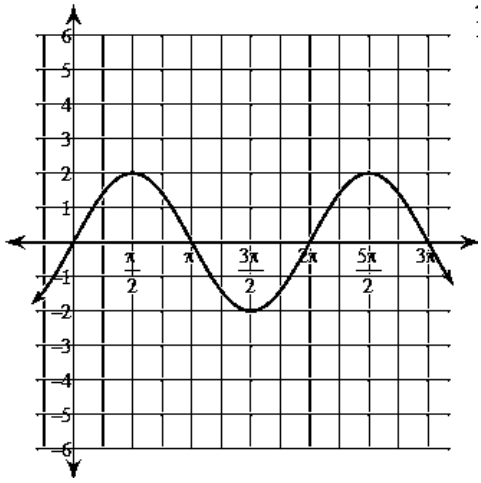
1)



Amplitude: 4
Period: $\pi/2$
Number of Cycles (between 0-2π): 4
Domain: $(-\infty,$
Range: $[-4,4]$
Maximum(s) (between 0-π): $(0,4), (\frac{\pi}{2},4), (\pi,4)$
Minimums(s) (between 0-π): $(\frac{\pi}{4},-4), (\frac{3\pi}{4},-4)$
Zero(s) (between 0-π): $(\pi/8,0)\ (3\pi/8,0)\ (5\pi/8,0), (7\pi/8,0)$
Equation of the Graph:

$y = 4\cos(4\theta)$

2)



Amplitude: 2
Period: 2π
Number of Cycles (between 0-2π): 1
Domain: $(-\infty,\infty)$
Range: $[-2,2]$
Maximum(s) (between 0-2π): $(\pi/2,0)$
Minimums(s) (between 0-2π): $(3\pi/2,0)$
Zero(s) (between 0-2π): $(0,0), (\pi,0), (2\pi,0)$
Equation of the Graph:

$y = 2\sin\theta$

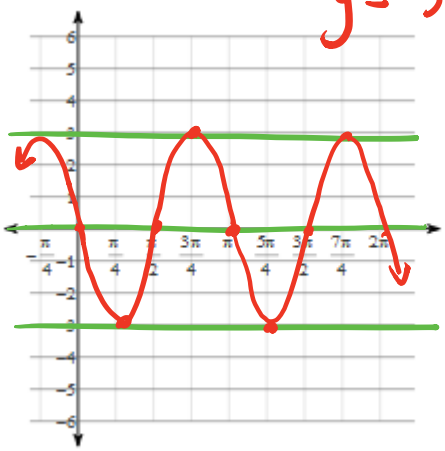
Using radians, find the amplitude and period of each function.

3) $y = \frac{1}{4} \cdot \cos\frac{\theta}{4}$ amp: $\frac{1}{4}$ Per: 8π

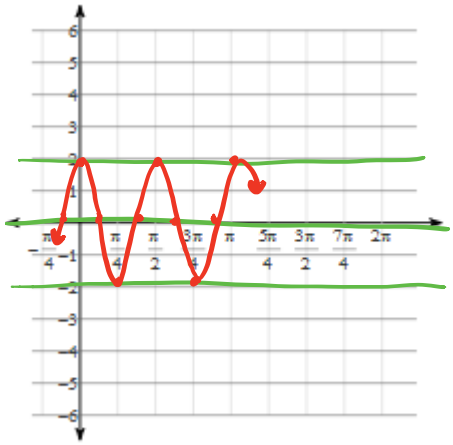
4) $y = 3\sin 2\theta$ Amp: 3 Per: π

5) Sketch the graph for two cycles of the sine curve with an amplitude of 3, a period of π, and $a < 0$. Then write the equation.

$y = -3\sin(2\theta)$

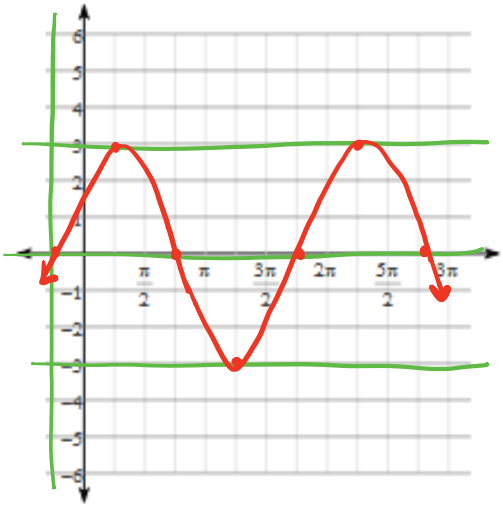


6) Sketch the graph for two cycles of the cosine curve with an amplitude of 2, a period of $\frac{\pi}{2}$, and $a > 0$. Then write the equation.

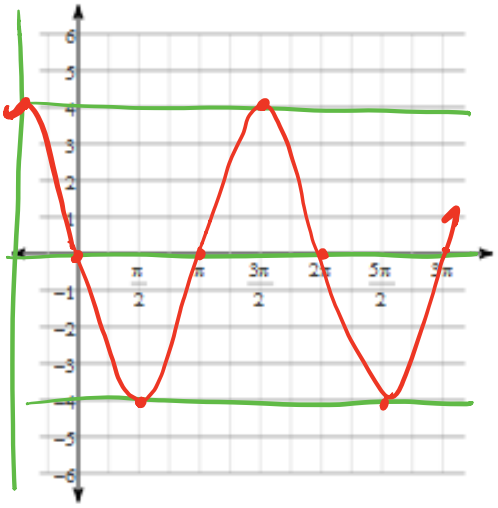


Using radians, find the amplitude and period of each function. Then graph.

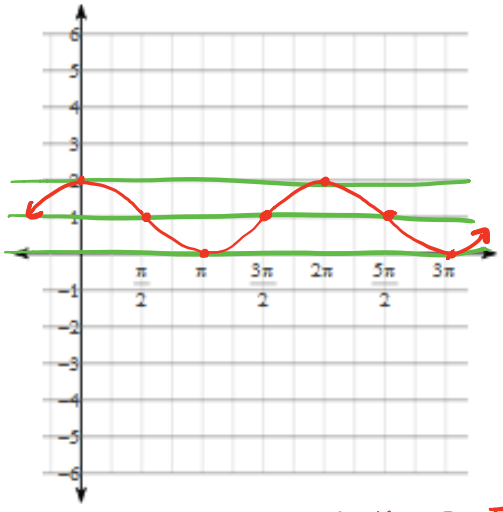
7) $y = 3\sin\left(\theta + \frac{\pi}{4}\right)$ A: 3 P: 2π



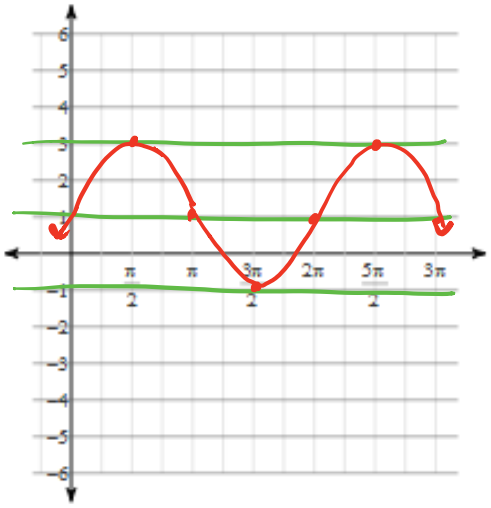
8) $y = 4\cos\left(\theta + \frac{\pi}{2}\right)$ A: 4 P: 2π



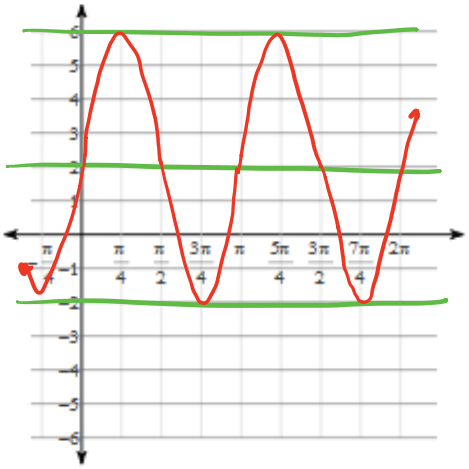
9) $y = \cos\theta + 1$ A: 1 P: 2π



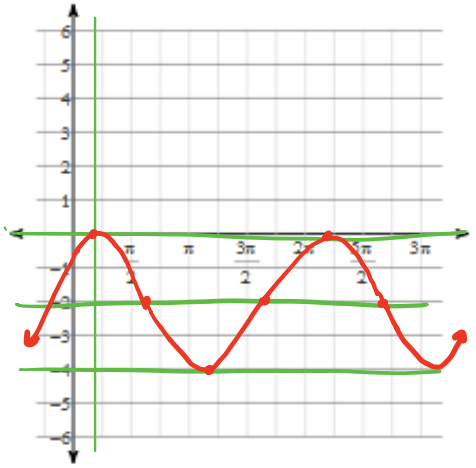
10) $y = 1 + 2\sin\theta$ A: 2 P: 2π



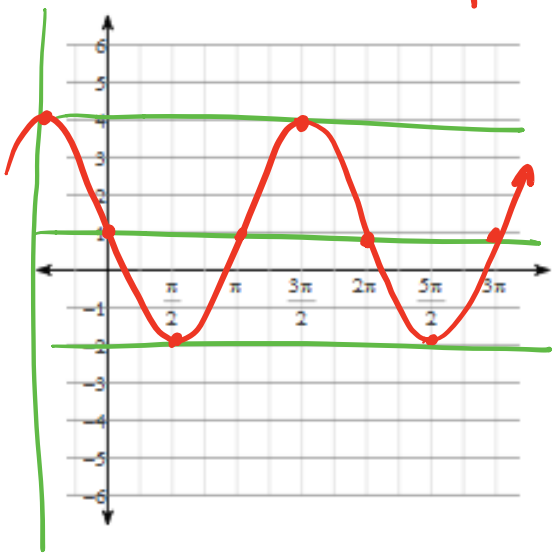
11) $y = 4\sin 2\theta + 2$ A: 4 P: π



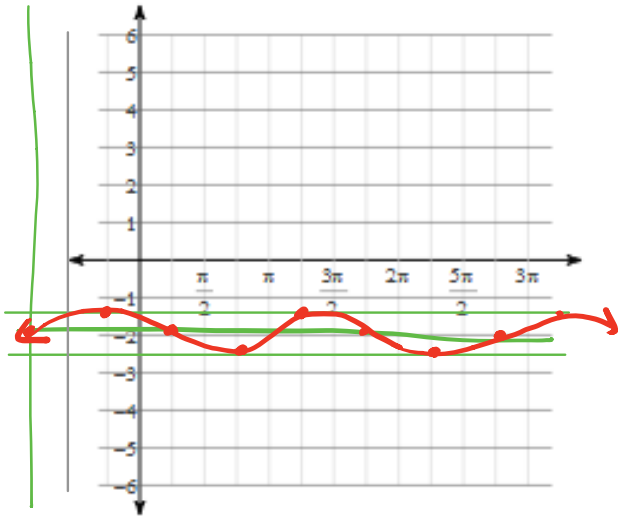
12) $y = -2 + 2\cos\left(\theta - \frac{\pi}{6}\right)$ A: 2 P: 2π



13) $y = 1 + 3\cos\left(\theta + \frac{\pi}{2}\right)$ A: 3 P: 2π



14) $y = \frac{1}{2} \cdot \sin\left(\theta + \frac{3\pi}{4}\right) - 2$



Write an equation for each translation.

21) $y = \sin\theta$; 3 units down; amplitude of 3

$y = 3\sin\theta - 3$

22) $y = \cos\theta$; 2 units up; $\frac{2\pi}{3}$ units to the right

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

23) $y = \cos\theta$; 1 unit up, phase shift π to the right, and an amplitude of 2.

$y = 2\cos(\theta - \pi) + 1$

24) $y = \sin\theta$; 2 units down, $\frac{3\pi}{2}$ left, and $a < 0$.

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