Chapter 10 – Math 119

Sketch the graph of the given functions.

1. $y = 2\sin x$

2. $y = -3\cos x$

3. $y = -\sin 2x$

4. $y = 4\cos 3\pi x$

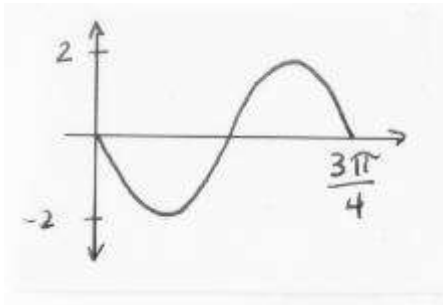5. $y = 0.3\sin\left(\dfrac{1}{2}x + \dfrac{\pi}{8}\right)$

6. $y = -1.5\cos\left(3x - \dfrac{\pi}{2}\right)$
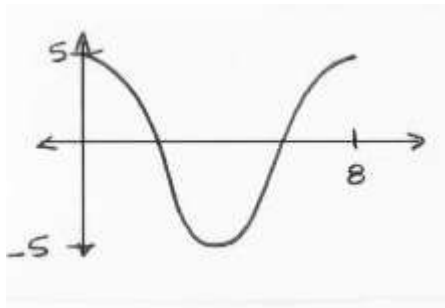
Remember that:

For $y = a\sin(bx + c)$ or $y = a\cos(bx + c)$:		
amplitude	$|a|$	Curve goes as high as $|a|$ and as low as $-|a|$.
period	$\dfrac{2\pi}{b}$	One full cycle is completed in $\dfrac{2\pi}{b}$ units of x.
displacement	$-\dfrac{c}{b}$	Curve is displaced $-\dfrac{c}{b}$ units of x

What's my function? Let the graph represent either $y = a\sin bx \; or \; y = a\cos bx$. Write the equation that describes the graph.
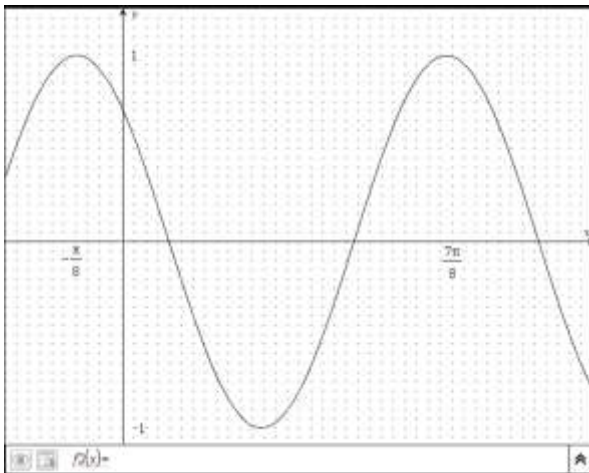
7.

8.

9. What's my function? Let the graph represent $y = a\cos(bx + c)$

10. The electric current i, in microamperes, in a certain circuit is given by $i = 3.8 \cos 2\pi(t + 0.20)$, where t is the time in seconds. Sketch two cycles of this function.

11. Write the equation for the given function with the given amplitude, period, and displacement respectively: sine, 8, $\dfrac{\pi}{6}$, $\dfrac{\pi}{12}$