Questions

1. Match the function on the left with the sketch on the right (no work needs to be shown here, fill in directly on this sheet).

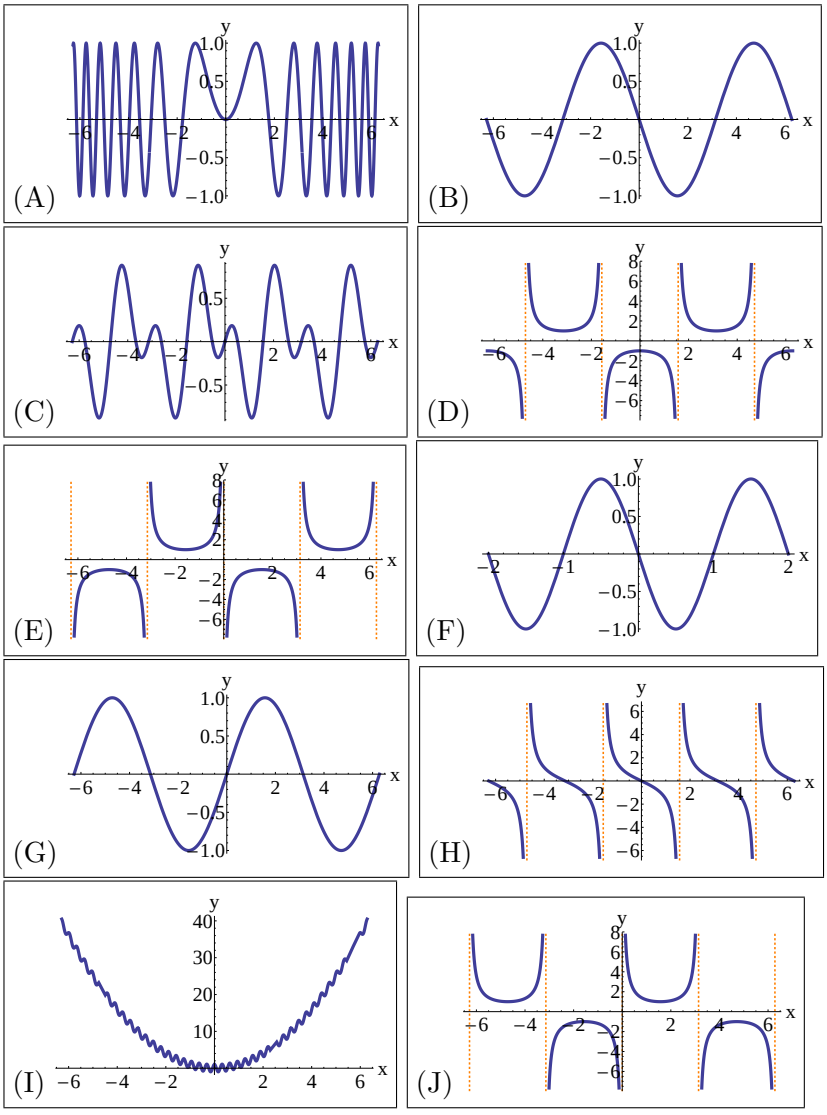
$y = -\sec x$ matches graph _____

$y = -\tan x$ matches graph _____

$y = \sin x^2$ matches graph _____

$y = \cos(3x) + \sin x$ matches graph _____

$y = x^2 + \cos(20x)$ matches graph _____



2. Answer True or False (no work needs to be shown here, fill in directly on this sheet):

$\sin(\pi/4) = \frac{1}{\sqrt{2}}$ ..... T F

$\cos(\pi/3) = \frac{\sqrt{3}}{2}$ ..... T F

$\tan(\pi/6) = \frac{1}{2}$ ..... T F

Sine is an even function ..... T F

$y = \frac{1}{x^2+1}\cos x$ exhibits damping as $x \to \infty$ ..... T F

$\cos t \to \infty$ as $t \to \infty$ ..... T F

$\sin t = \frac{1}{\cos t}$ ..... T F

$\tan t$ has period $\pi/2$ ..... T F

$\tan t = \frac{\sin t}{\cos t}$ ..... T F

$\csc t$ has a vertical asymptote at $t = \pi$ ..... T F

$y = \cos(2x) + \sin(4x)$ is periodic ..... T F

$y = \cos(2x) + \sin(4x)$ is a sinusoid ..... T F

$y = 2\cos(4x) + \sin(4x)$ is a sinusoid ..... T F

The domain of $y = \sin\theta$ is $\theta \in [-1, 1]$ ..... T F

The range of $y = -7\sin\theta$ is $y \in [-7, 7]$ ..... T F

3. Sketch the sinusoid $y = -5\sin(2x + 7) - 6$. Determine the Amplitude, Period, and Phase Shift of the sinusoid. *Note: This one is a bit trickier than some that we have done–you might consider drawing intermediate sketches of* $y = 5\sin(2x + 7)$ *and* $y = -5\sin(2x + 7)$ *to help you accurately sketch the final sinusoid.*

4. Sketch the sinusoid $y = 3\sin(\pi(2x + 1))$. Determine the Amplitude, Period, and Phase Shift of the sinusoid. Clearly label the location of a local minimum on your sketch.

5. Solve $\tan t = -\sqrt{3}$ for all values of t.

6. Solve $\sec t = \frac{2}{\sqrt{3}}$ for all values of t.