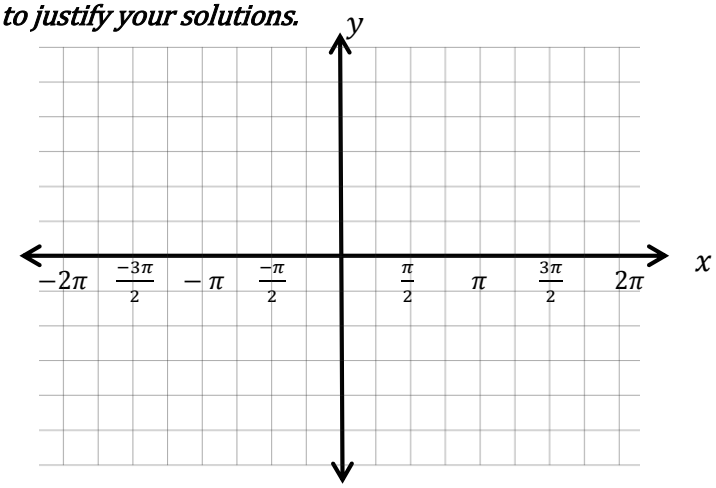
Pre-Calculus Name: Date: Period:

# Assignment 8A.2: Graphing Sinusoids-COS

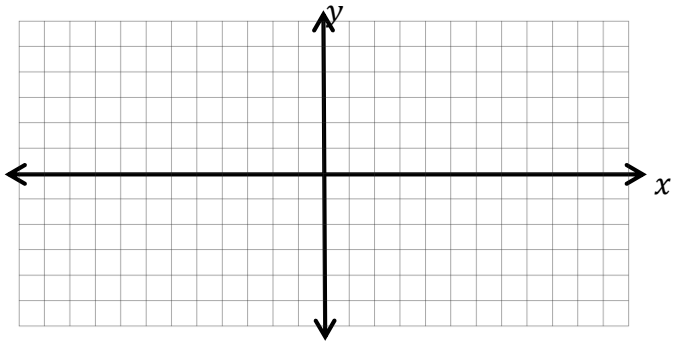
***Answer the following questions and show your work to justify your solutions.***

1. Graph $f(x) = \cos(x)$ from $-2\pi$ to $2\pi$

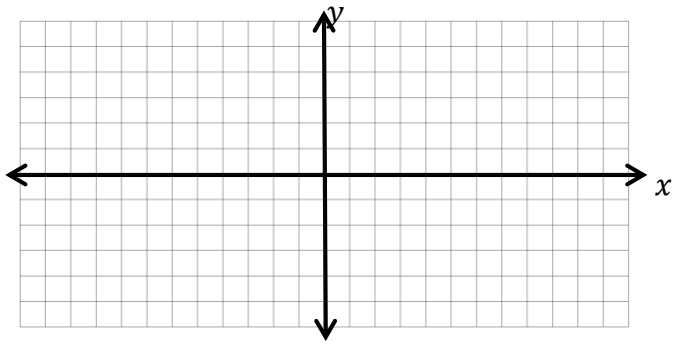



**For each of the following functions, find the amplitude and period, then graph at least 2 periods of each (adjust your scale accordingly and label your axes)**

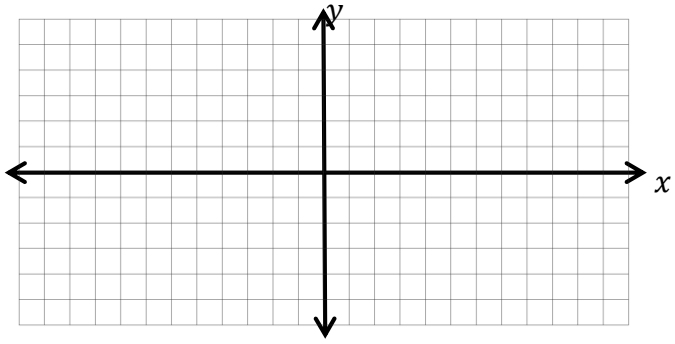
2. $g(x) = 4\cos(x)$



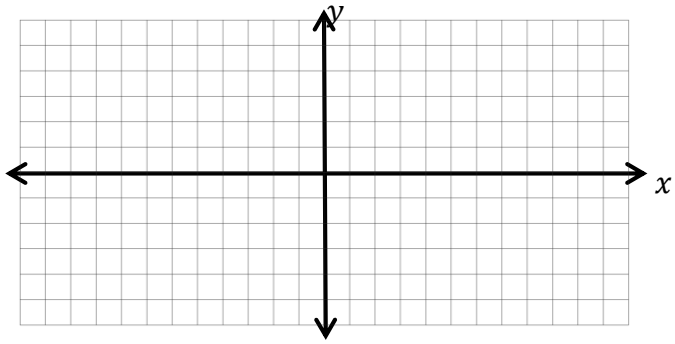

3. $h(x) = -2\cos(x)$



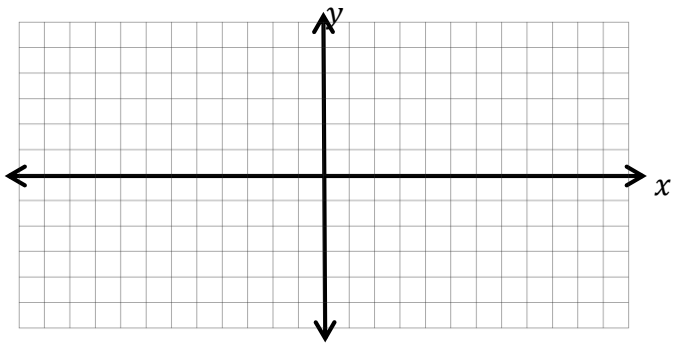

4. $k(x) = \cos(4x)$



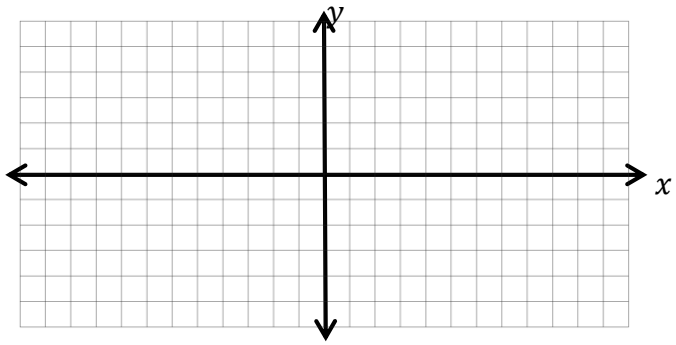

5. $m(x) = \cos\left(\frac{1}{4}x\right)$



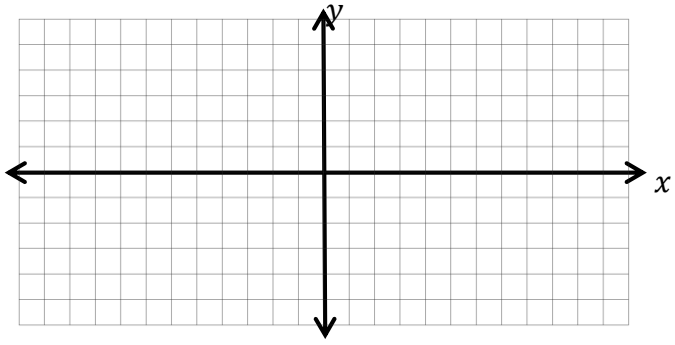
6. $f(x) = \cos(x) - 2$



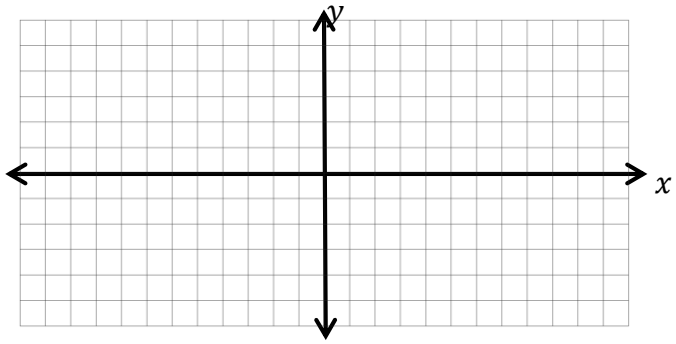

7. $f(x) = \cos\left(x + \frac{\pi}{2}\right)$




8. $f(x) = 3\cos(4x)$




9. $g(x) = -\frac{1}{2}\cos(\pi x) + 1$




10. A certain cosine function, $f(x)$ has a maximum at $\left(\frac{\pi}{3}, 2\right)$ and a minimum at $\left(\frac{4\pi}{3}, 0\right)$

    a. Find the period of the function.

    b. Find the amplitude of the function.

    c. Describe how the function has been translated vertically and/or horizontally from $y = \cos(x)$?

    d. Write the equation for this function.