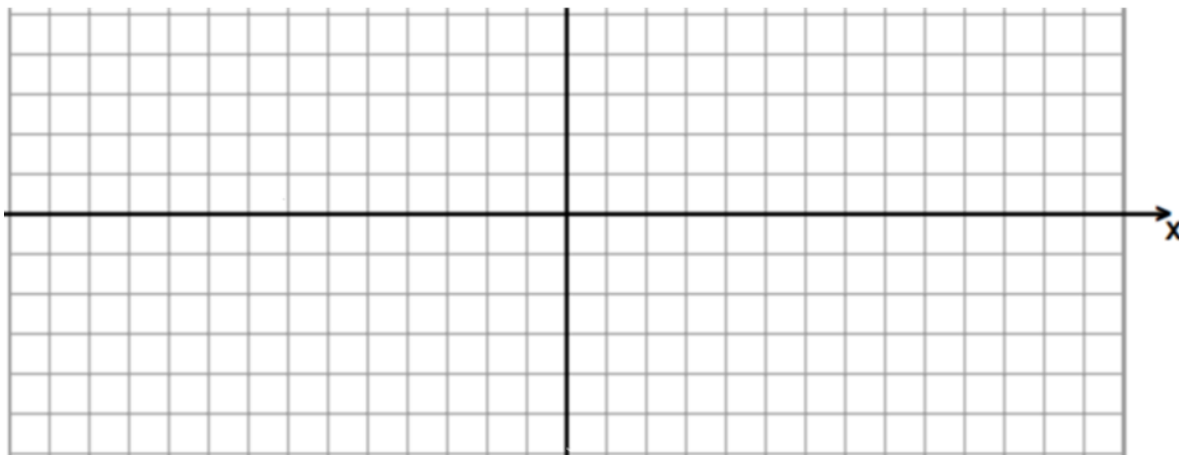


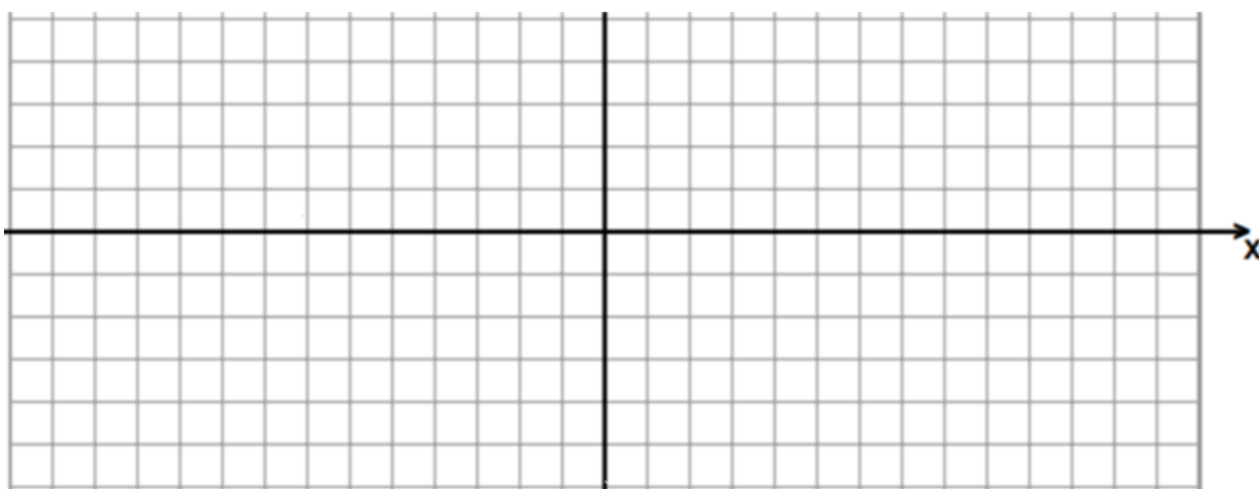
## Graphing Sine and Cosine Curves with Phase Shifts

Sketch at least two complete cycles of the following functions.

1.  $y = 3\cos\left(x + \frac{\pi}{3}\right) + 1$       Amplitude = \_\_\_\_\_    Period = \_\_\_\_\_    Vertical Shift = \_\_\_\_\_    Phase Shift = \_\_\_\_\_



2.  $y = 2\sin\left(\frac{2}{3}x - \frac{\pi}{6}\right) - 1$       Amplitude = \_\_\_\_\_    Period = \_\_\_\_\_    Vertical Shift = \_\_\_\_\_    Phase Shift = \_\_\_\_\_



3.  $y = 2 - 3\cos\left(2\pi x + \frac{\pi}{2}\right)$       Amplitude = \_\_\_\_\_    Period = \_\_\_\_\_    Vertical Shift = \_\_\_\_\_    Phase Shift = \_\_\_\_\_

