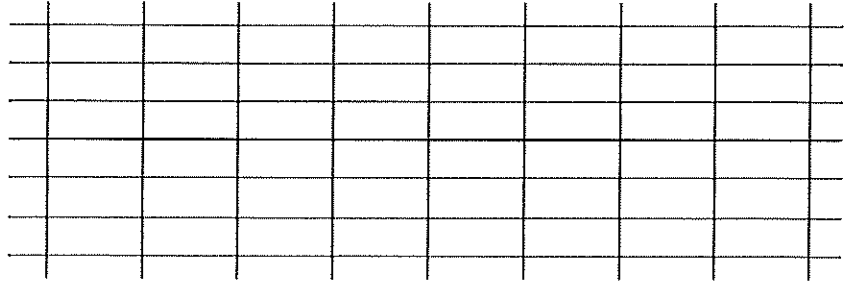


For each equation:

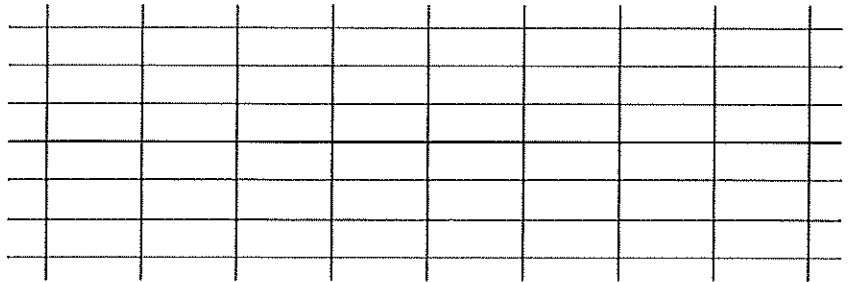
- Graph each equation by hand. Show 2 full periods and label values on x and y axes.
- Find the amplitude, period and phase shift.

#1. $y = 2\sin(2x - \pi) + 1$



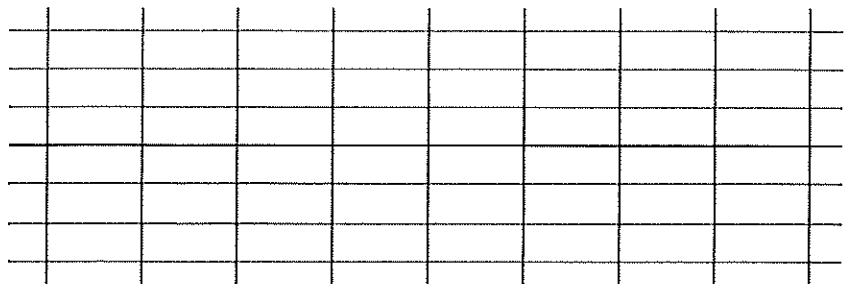
Amplitude = _____ Period = _____ Phase Shift = _____

#2. $y = \cos(\pi x) - 0.5$



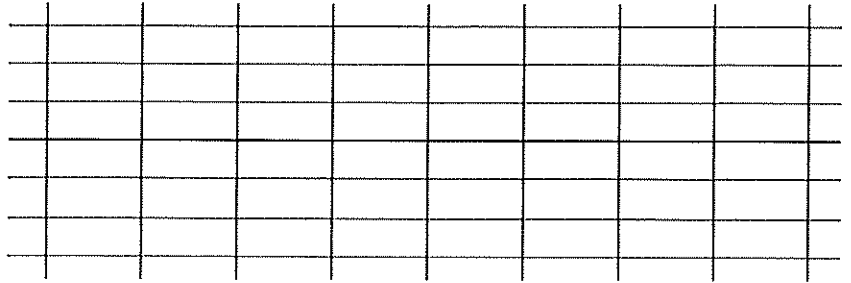
Amplitude = _____ Period = _____ Phase Shift = _____

#3. $y = 2\cos\left(\frac{x}{3}\right)$



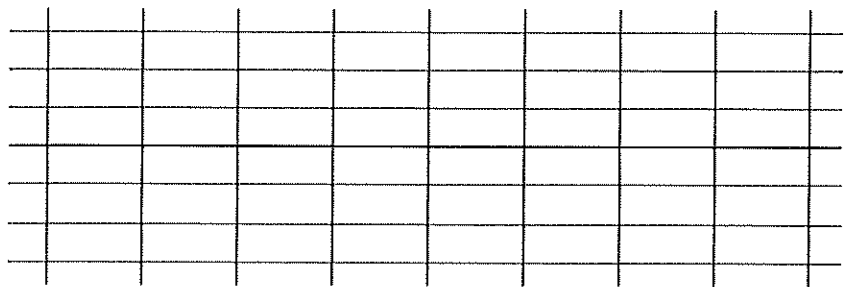
Amplitude = _____ Period = _____ Phase Shift = _____

#4. $y - 1 = -2 \cos(4x)$



Amplitude = _____ Period = _____ Phase Shift = _____

#5. $y = \frac{3}{2} + \frac{5}{2} \sin\left(2x - \frac{\pi}{2}\right)$



Amplitude = _____ Period = _____ Phase Shift = _____

#6. A spherical weight is hanging from a spring connected to a board. At rest, the weight pulls the spring down so that the weight is 12 cm above the floor. If the weight is pulled down 2 cm and released at time $t=0$, the spring will oscillate up and down as shown in the picture. Find an equation for the height of the spring above the floor (in cm) as a function of time (in seconds).

