

4.4 Graphing Sinusoidal Functions (Target 5E)

Equation	Key Features	Graph
$y = 2\sin(x - \pi)$	<p>Amplitude: <u>2</u></p> <p>$\frac{2\pi}{1} = 2\pi \dots \text{☺}$</p> <p>Period: <u>$2\pi$</u></p> <p>$-\frac{\pi}{1} = -\pi \dots \text{☹}$</p> <p>Phase Shift: <u>$\pi$</u> (to the right)</p> <p>Vertical Shift: <u>none</u></p> <p>Domain: <u>$(-\infty, \infty)$</u></p> <p>Range: <u>$[-2, 2]$</u></p>	<p>* final graph $y = 2\sin(x - \pi)$</p>
$y = 2\cos\left(x - \frac{\pi}{2}\right)$	<p>Amplitude: <u>2</u></p> <p>$\frac{2\pi}{1} = 2\pi \dots \text{☺}$</p> <p>Period: <u>$2\pi$</u></p> <p>$-\frac{\pi}{2} = -\frac{\pi}{2} \dots \text{☺}$</p> <p>Phase Shift: <u>$\frac{\pi}{2}$</u> (to the right)</p> <p>Vertical Shift: <u>none</u></p> <p>Domain: <u>$(-\infty, \infty)$</u></p> <p>Range: <u>$[-2, 2]$</u></p>	<p>* final graph $y = 2\cos(x - \frac{\pi}{2})$</p>
$y = -2\sin(x)$	<p>Amplitude: <u>2</u> (reflects over x-axis)</p> <p>$\frac{2\pi}{1} = 2\pi \dots \text{☺}$</p> <p>Period: <u>$2\pi$</u></p> <p>$\frac{0}{1} = 0 \dots \text{☺}$</p> <p>Phase Shift: <u>none</u></p> <p>Vertical Shift: <u>none</u></p> <p>Domain: <u>$(-\infty, \infty)$</u></p> <p>Range: <u>$[-2, 2]$</u></p>	<p>* final graph $y = -2\sin(x)$</p>

