Different Types of Sine and Cosine Graphs
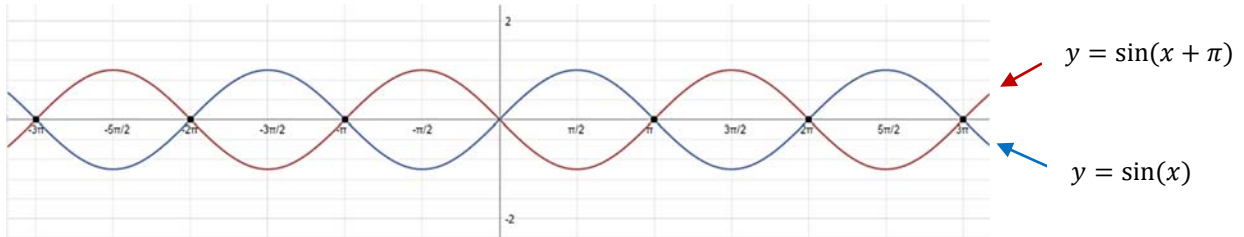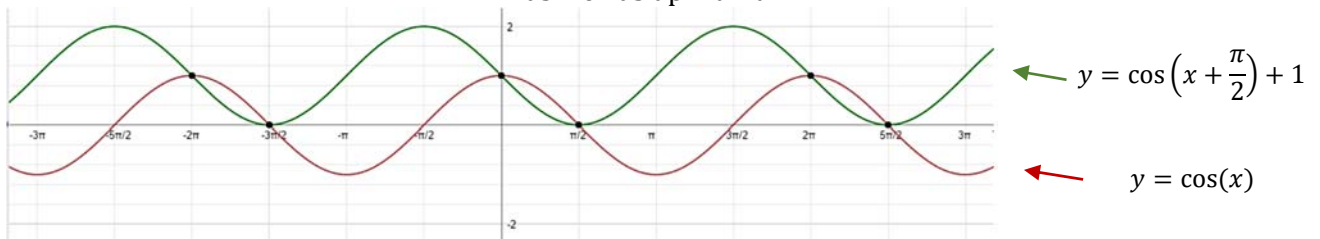
Ex 1) Graph $y = \sin(x + \pi)$ → take the graph of y=sin(x), and shift it to the left π units

$y = \sin(x + \pi)$

$y = \sin(x)$

Ex 2) Graph $y = \cos\left(x - \frac{\pi}{2}\right) + 1$ → take the graph of y=cos(x) and shift it to the right $\frac{\pi}{2}$ units,
as well as up 1 unit

$y = \cos\left(x + \frac{\pi}{2}\right) + 1$

$y = \cos(x)$

Ex 3) Graph $y = \sin(x - \frac{\pi}{4})$ → take the graph of y=sin(x) and shift it to the right $\frac{\pi}{4}$ units

($\frac{1}{8}$ of a revolution, halfway between each of the 4 main points of the unit circle)

$y = \sin\left(x - \frac{\pi}{4}\right)$

$y = \sin(x)$