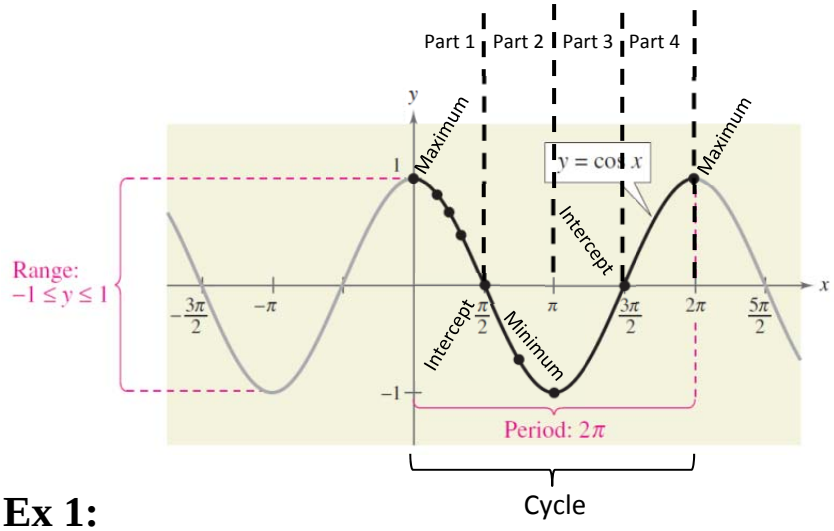
Pg. 321 4.5B – Graphs of Sine and Cosine Functions

The graph of a sine function is an oscillation known as a sine curve.

Parent function of sine: cos x



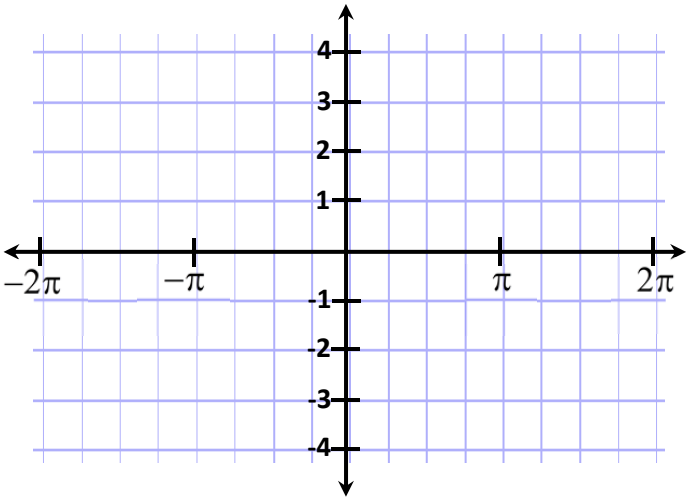
5 Key Graphing Points

1) Intercepts (2 per cycle)
2) Maximum (2 per cycle)
3) Minimum (1 per cycle)

Note: Cycle is divided into 4 parts. Normal cycle of sine is 2π. Thus, each part is $\frac{2\pi}{4}$ or $\frac{\pi}{2}$ units wide.

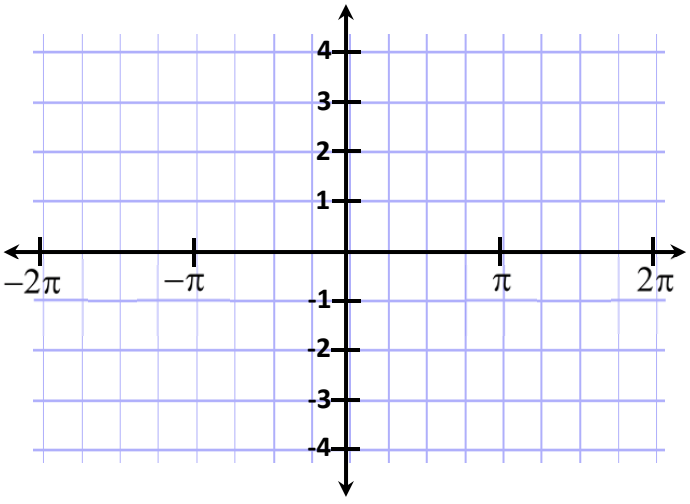
Ex 1:

Graph $y = 3\cos x$



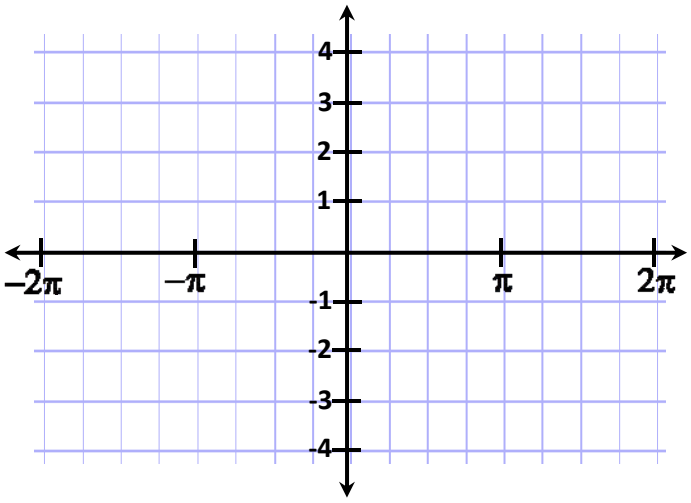
Ex 2:

Graph $y = \cos(2x)$



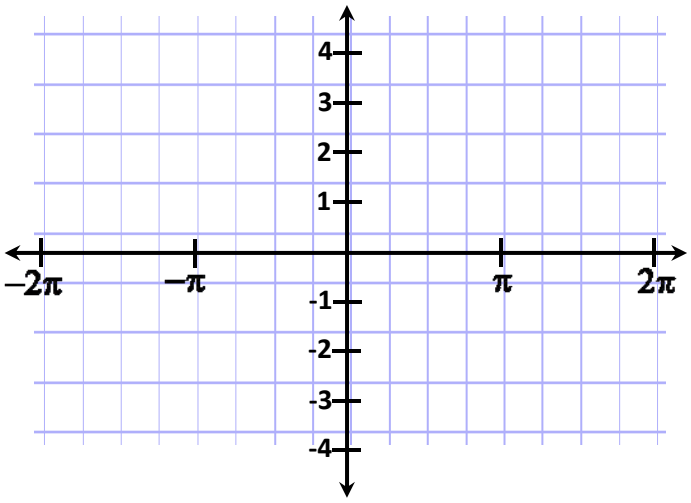
Ex 3:

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



Ex 4:

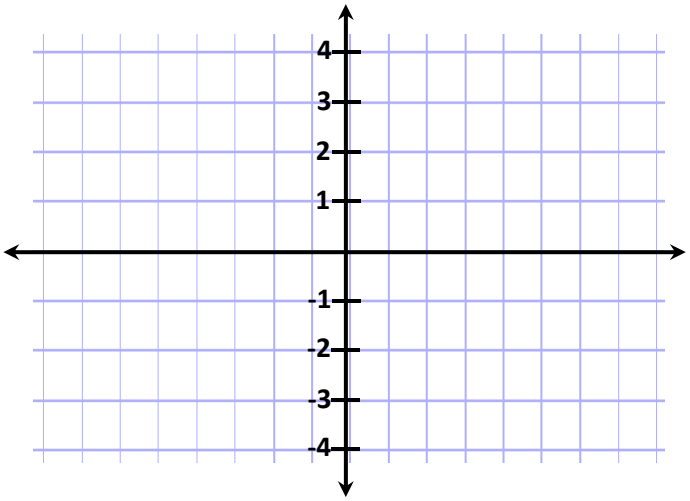
Graph $y = \cos x - 2$



Ex 4:

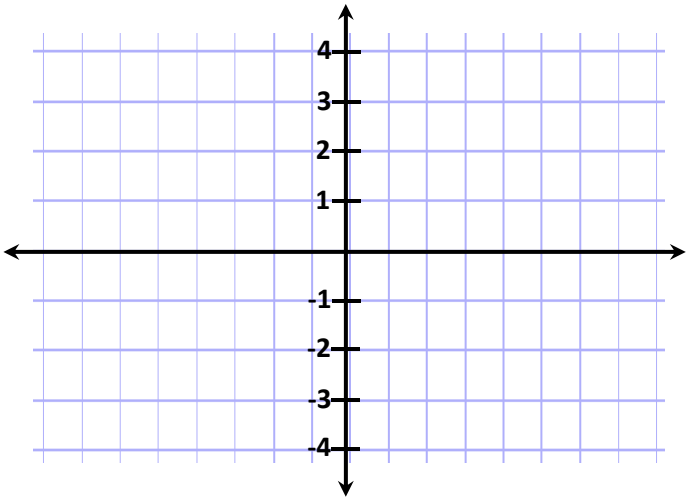
Graph $y = -3\cos\left(2x - \frac{\pi}{4}\right) + 1$

Important:
1st Reflect
2nd Shift



Ex 5:

Graph $y = -3 + 5\cos\left(\frac{\pi t}{12}\right)$



Assignment 4.5B Pg. 328 **REQUIRED:**

Problem Set #'s 3, 11, 17, 19, 23, 29, 33, 37, 39, 41, 47, 51, 53, 55, 59, 63, 65