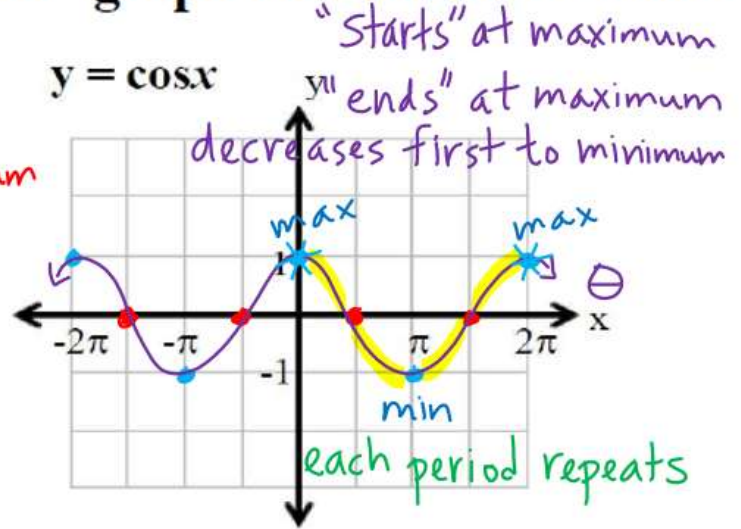
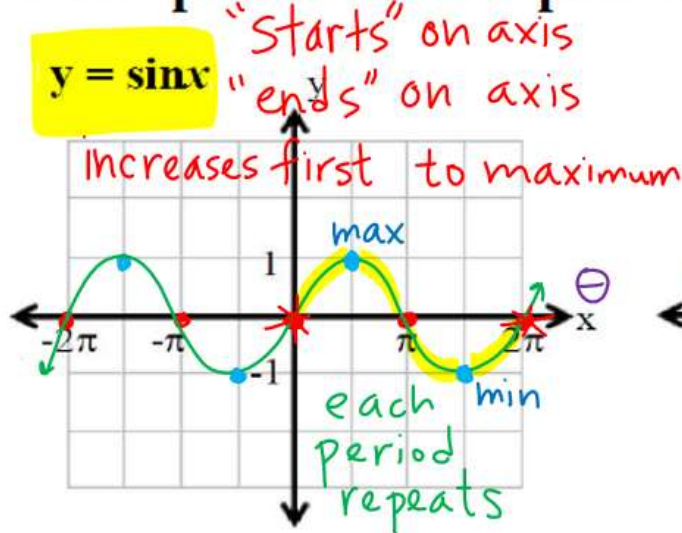


Sketch two periods of the “parent” graph for Sine and Cosine:



Notes Chapter 5: Graphing Sine and Cosine

graphing form:

$$y = A \sin k(x - b) + h$$

graphing form:

$$y = A \cos k(x - b) + h$$

Be sure that the equation is in graphing form where **k** (the coefficient of x) has been factored out of the parentheses. Then, identify and plot information in the following order:

vertical shift = h → moves entire graph up or down

midline is $y = h$ → a **horizontal** axis used as a reference line for sine/cosine graphs

amplitude = $|A|$ → **vertical** stretch/compression that creates maximum and minimum values for sine and cosine

Note: if $A < 0$, then the graph will reflect (flip) across the x -axis

period = $\frac{2\pi}{k}$, $k > 0$ → the horizontal length of one full cycle (**horizontal** stretch/compression)

*Note: if $k > 1$, then the period decreases
 if $0 < k < 1$, then period increases*

horizontal shift = b → or **PHASE SHIFT**: a horizontal translation (slide) of a trig function

Note: frequency is the number of cycles that occur in one horizontal unit → $\frac{k}{2\pi}$