

Algebra 2

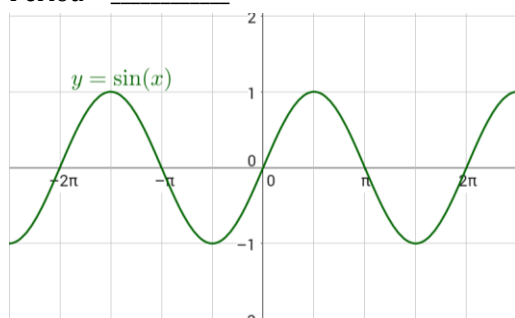
10-04 Graphing Sine and Cosine Functions

$$y = \sin x$$

Starts at _____

Amplitude = _____

Period = _____

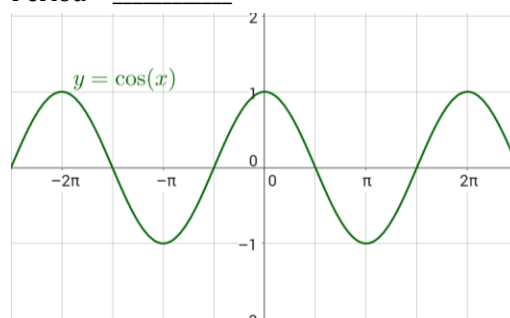


$$y = \cos x$$

Starts at _____

Amplitude = _____

Period = _____



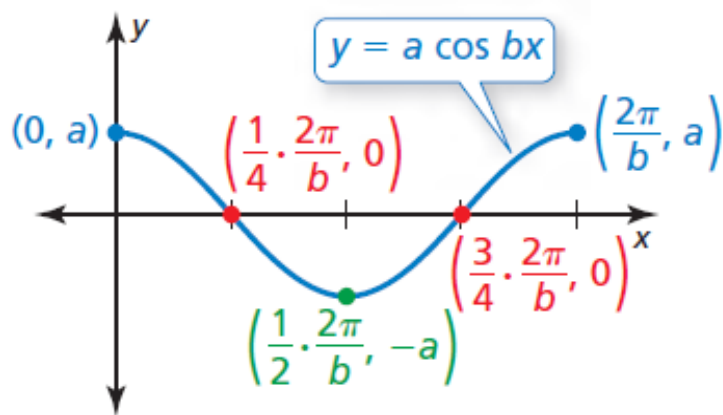
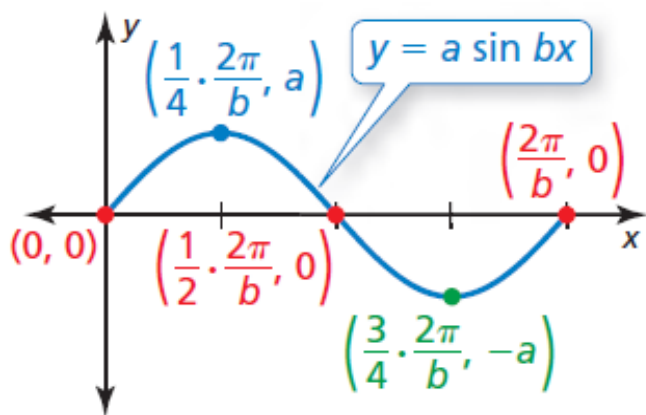
Transformations

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

- $|a| = \underline{\hspace{2cm}}$ = vertical stretch
- If $a < 0$, then _____ over x-axis
- $b = \underline{\hspace{2cm}}$
- Period $T = \frac{2\pi}{|b|}$
- $h = \underline{\hspace{2cm}}$ shift
- $k = \underline{\hspace{2cm}}$ shift
- _____ $y = k$

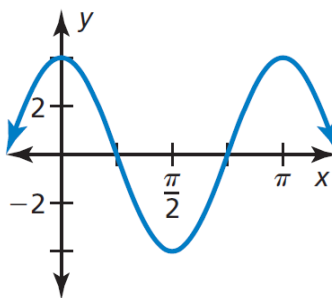
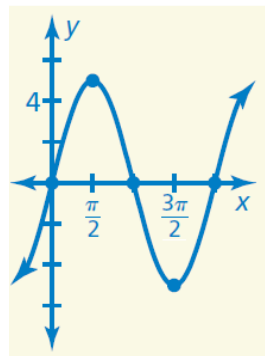
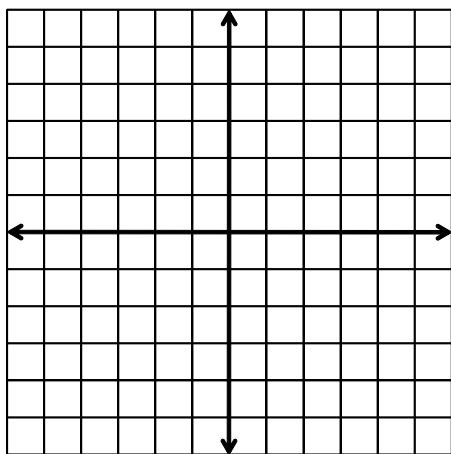
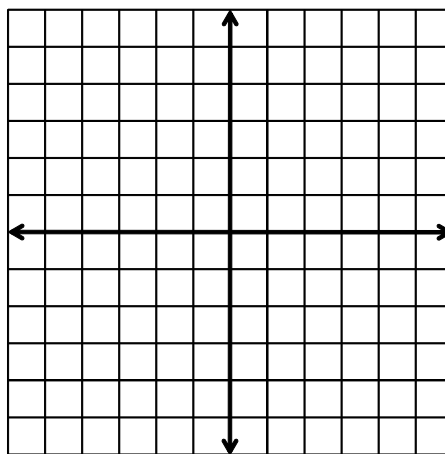
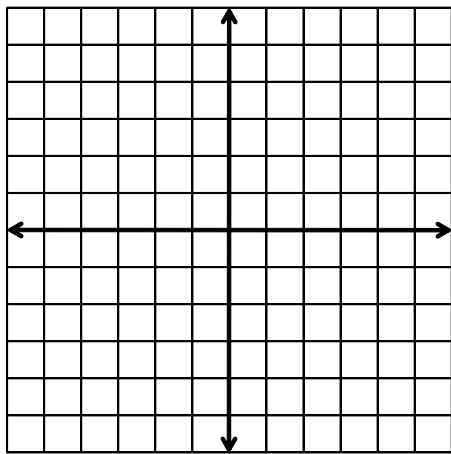
Graphing sine and cosine

1. Identify the _____, _____, _____ shift, and _____ shift
2. Draw the _____, $y = k$
3. Find the 5 key points (3 zeros, 1 max, 1 min)



4. _____ the graph

Identify the amplitude and period.

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