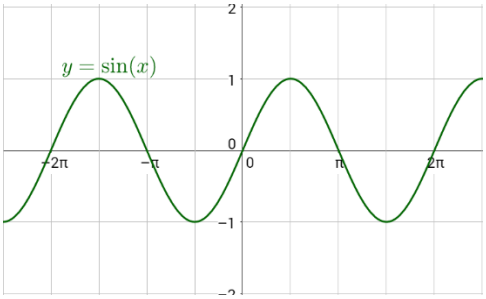
Precalculus

4-06 Graphs of Sine and Cosine

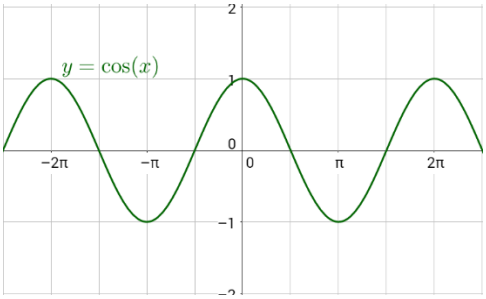
$y = \sin x$

- Starts at _____
- Amplitude = _____
- Period = _____



$y = \cos x$

- Starts at _____
- Amplitude = _____
- Period = _____

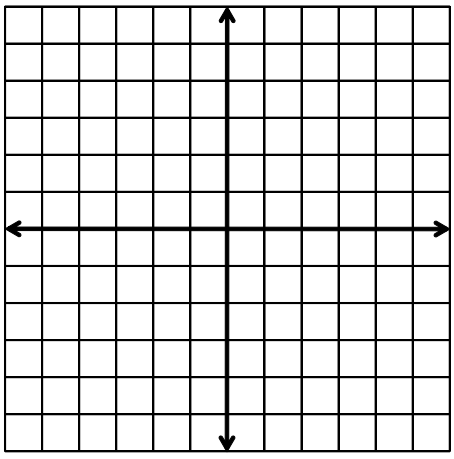


Transformations

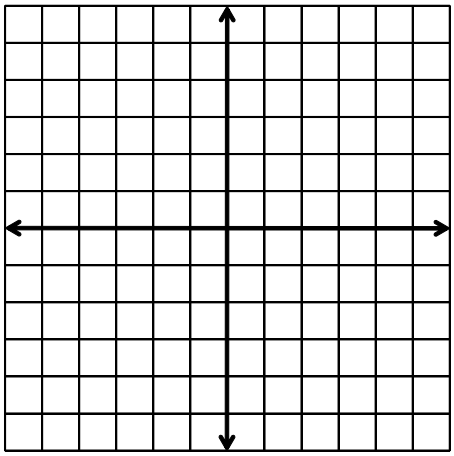
$$y = a\sin(bx - c) + d$$

- a = vertical _____
  - **Amplitude** = _____
- b = horizontal _____
  - **Period** _____
- c = horizontal _____
  - **Phase shift** _____ (Right if c is positive)
- d = vertical _____
  - **Midline** _____

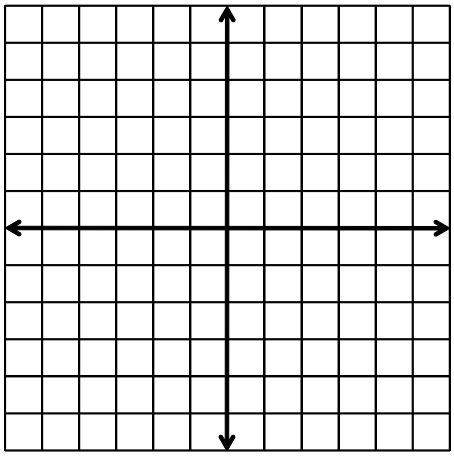
Graph $f(x) = 2\sin x$



Graph $y = \cos\frac{x}{2}$



Graph $y = 2\sin\left(x - \frac{\pi}{2}\right)$



Graph $y = -\frac{1}{2}\sin(\pi x + \pi) + 1$