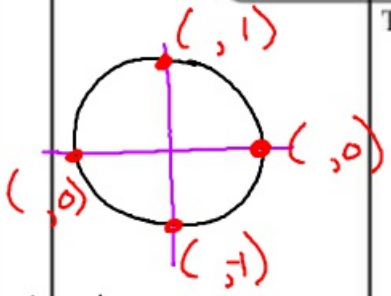
What you'll Learn About

- The basic waves revisited/Sinusoids and Transformations
- Modeling



x-int: beginning
$\frac{1}{2}$ way
end of period

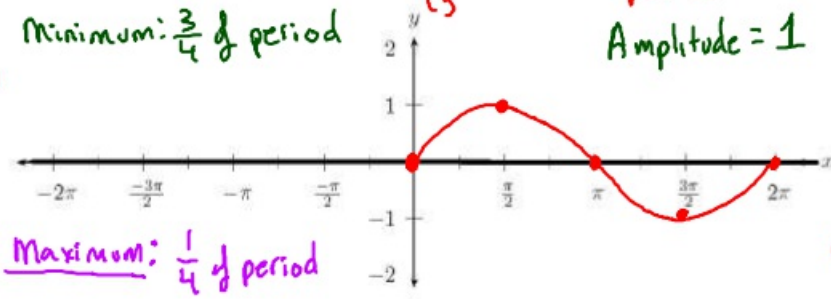
The graph of $y = \sin x$

(y-coord for sine)

Minimum: $\frac{3}{4}$ of period

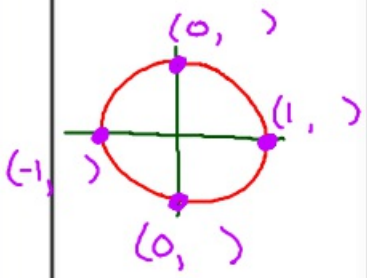
period $= 2\pi$

Amplitude $= 1$



rad
↓
angles

Maximum: $\frac{1}{4}$ of period

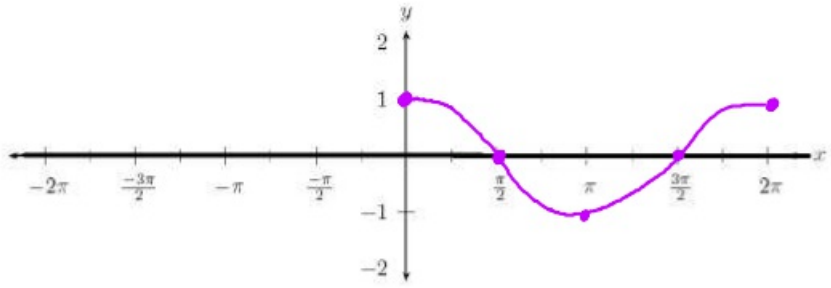


Max: Beginning and end of period

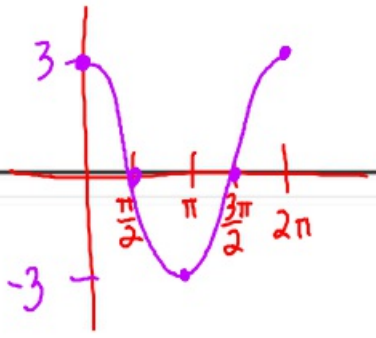
Min: $\frac{1}{2}$ of period

x-int: $\frac{1}{4}$ and $\frac{3}{4}$ of period

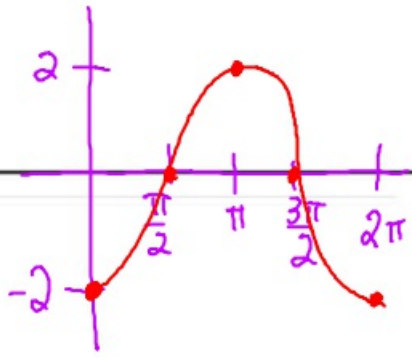
The graph of $y = \cos x$



① $y = 3\cos x$



② $y = -2\cos x$

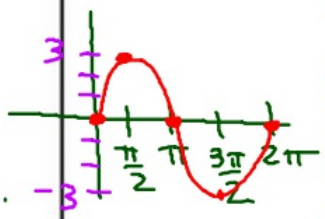


Find the amplitude of the function and use the language of transformations to describe how the graph of the function is related to the graph of y = sinx

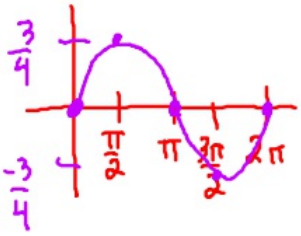
Amp = 3

Vertical stretch

A) $y = 3\sin x$



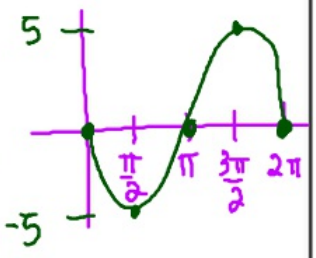
B) $y = \frac{3}{4}\sin x$



Amp = 3/4

Period = 2π

C) $y = -5\sin x$



Amp = 5

Find the period of the function and use the language of transformations to describe how the graph of the function is related to the graph of y = cosx

A) $y = \cos(2x)$

B) $y = \cos\frac{x}{2}$

C) $y = \cos\left(\frac{-3x}{4}\right)$