

# Writing Equations of Sine and Cosine Graphs

Determine:

- sine or cosine
- amplitude
- vertical shift
- period
- phase shift

Use:

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

or

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

period:  $\frac{2\pi}{b} \rightarrow b = \frac{2\pi}{\text{period}} \text{ or } \frac{360^\circ}{\text{period}}$

argument:  $b(x - \text{phaseshift})$

$b(\theta - \text{phaseshift})$