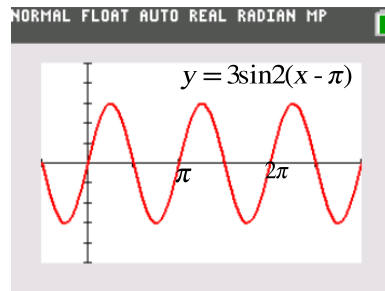
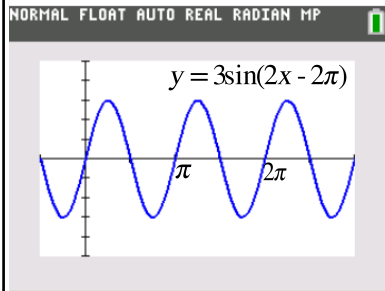


Writing Equations of Sine & Cosine Graphs

$$y = 3\sin(2x - 2\pi)$$

$$y = 3\sin 2(x - \pi)$$



Writing Equations of Sine and Cosine Graphs

Determine:

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

Use:

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

or

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

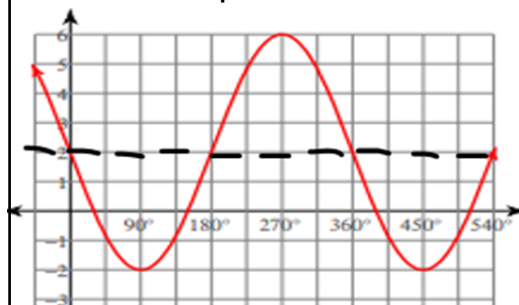
$$\text{period} = \frac{2\pi}{b} \rightarrow b = \frac{2\pi}{\text{period}} \text{ or } \frac{360^\circ}{\text{period}}$$

argument:

$$b(x - c) \quad b(x - \text{phaseshift})$$

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

Write the equation of a sine function.



Amplitude: _____

Reflect across x-axis? _____

Phase Shift: _____

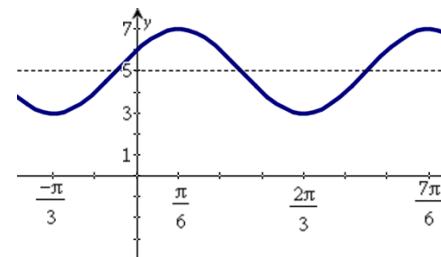
Domain: _____

Period: _____

Vertical Shift: _____

Range: _____

Write the equation of a cosine function.



Amplitude: _____

Reflect across x-axis? _____

Phase Shift: _____

Domain: _____

Period: _____

Vertical Shift: _____

Range: _____