

Graph the following equations. State the domain, range, amplitude, period, phase shift, and vertical shift of each.

1. $y = -\frac{1}{3}\cos(4\theta) + 1$

GRAPH

Domain:
Range:
Amplitude:
Period:
Phase Shift:
Vertical Shift:

2. $y = 3\sin 2\left(x - \frac{\pi}{8}\right) - 2$

GRAPH

Domain:
Range:
Amplitude:
Period:
Phase Shift:
Vertical Shift:

3. $y = -\tan(3\theta + 180) - 1$

GRAPH

Domain:
Range:
Amplitude:
Period:
Phase Shift:
Vertical Shift:

$$4. y = -\frac{1}{4} \cos\left(4x + \frac{\pi}{2}\right) + 3$$

GRAPH

Domain:

Range:

Amplitude:

Period:

Phase Shift:

Vertical Shift:

$$5. y = 5 \sin \frac{1}{3}(\theta - 180)$$

GRAPH

Domain:

Range:

Amplitude:

Period:

Phase Shift:

Vertical Shift:

$$6. y = -\csc(6\theta) - 3$$

GRAPH

Domain:

Range:

Amplitude:

Period:

Phase Shift:

Vertical Shift:

7. Write an equation of a cosine function with amplitude = 4, period = 6π , phase shift = $\frac{\pi}{8}$, vertical shift = -3.

8. Write an equation of a sine function with amplitude = $\frac{2}{3}$, period = 90° , phase shift = -40° , vertical shift = 8.

Identify the domain, range, amplitude, period, phase shift, vertical shift, and write an equation for each graph.

9.

Domain:

Range:

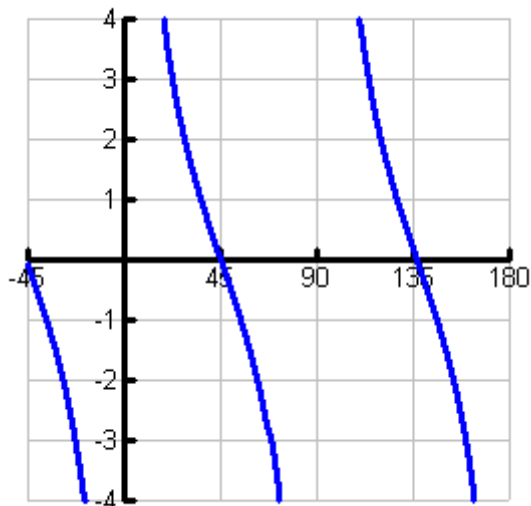
Amplitude:

Period:

Phase Shift:

Vertical Shift:

Equation:



10.

Domain:

Range:

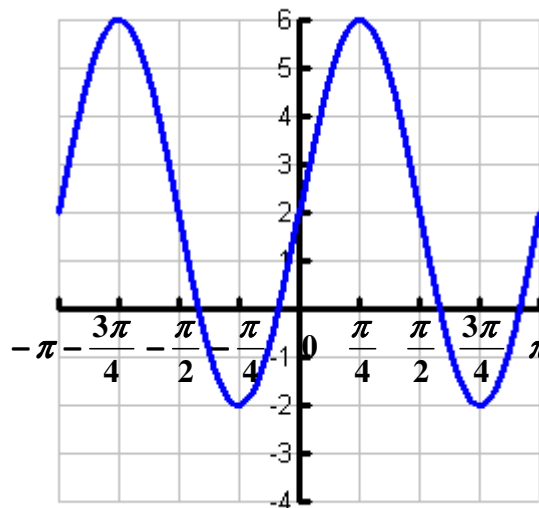
Amplitude:

Period:

Phase Shift:

Vertical Shift:

Equation:



Find ALL values of x or θ that satisfy each equation.

11. $x = \text{Arcsin}\left(-\frac{\sqrt{3}}{2}\right)$

12. $\theta = \text{arc sec}(-\sqrt{2})$

13. $x = \tan^{-1}\left(\frac{\sqrt{3}}{3}\right)$

14. $\text{Cot}\theta = (-1.85)$

Evaluate.

$$15. \sin\left(\cos^{-1}\left(-\frac{\sqrt{3}}{2}\right) + \sin^{-1}\left(\frac{1}{2}\right)\right)$$

Graph, and state the domain and range. State whether they are functions.

$$16. y = \sin^{-1}x$$

$$17. y = \sec^{-1}x$$