

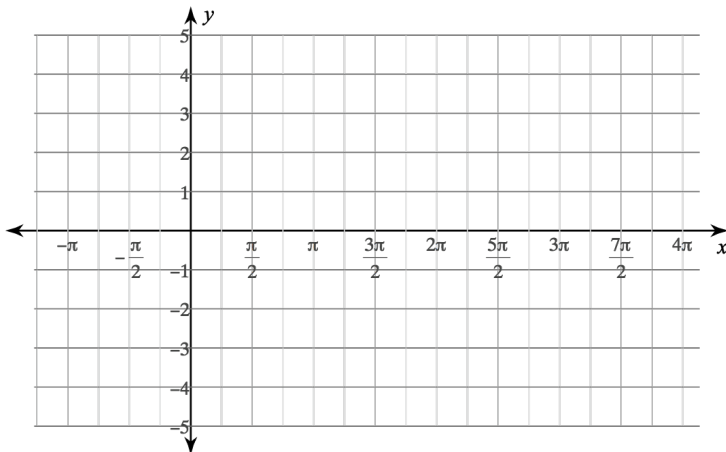
10.3 HW: Period and Phase Shift of Sine and Cosine

Write an equation for each function described below.

- | | |
|---|---|
| <p>1. Sine function
Amplitude 3
Reflected across x-axis
Shifted up 2 units
Period 2π</p> | <p>2. Cosine function
Amplitude 2
Shifted left 2 units
Shifted up 4 units
Period $\frac{\pi}{2}$</p> |
| <p>3. Sine function
Amplitude 1
Shifted down 5 units
Shifted right π units
Period $\frac{\pi}{4}$</p> | <p>4. Cosine function
Amplitude 0.5
Shifted right $\frac{\pi}{6}$
Shifted down π units
Period 6π</p> |

Find the indicated information. Then sketch a graph of the function.

5. $y = 3 \sin\left(2\left(\theta - \frac{\pi}{4}\right)\right) - 1$



Amplitude: _____

Period: _____

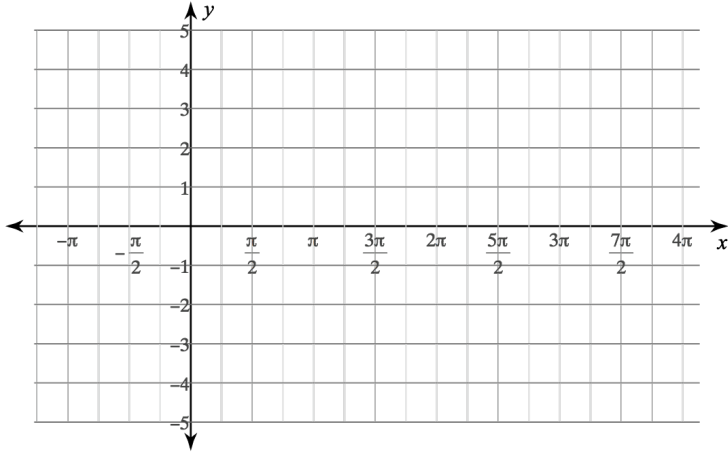
Phase Shift: _____

Midline: _____

Domain: _____

Range: _____

6. $y = 2 \sin\left(\frac{1}{4}\left(\theta + \frac{\pi}{2}\right)\right) + 3$



Amplitude: _____

Period: _____

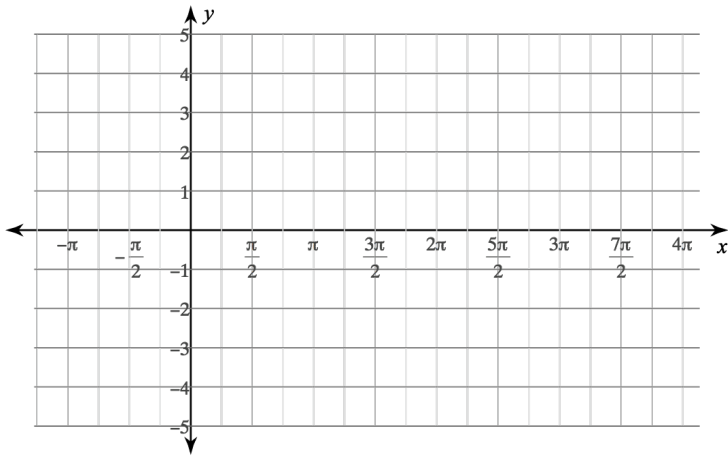
Phase Shift: _____

Midline: _____

Domain: _____

Range: _____

7. $y = 3 \cos\left(2\left(\theta + \frac{3\pi}{4}\right)\right) + 2$



Amplitude: _____

Period: _____

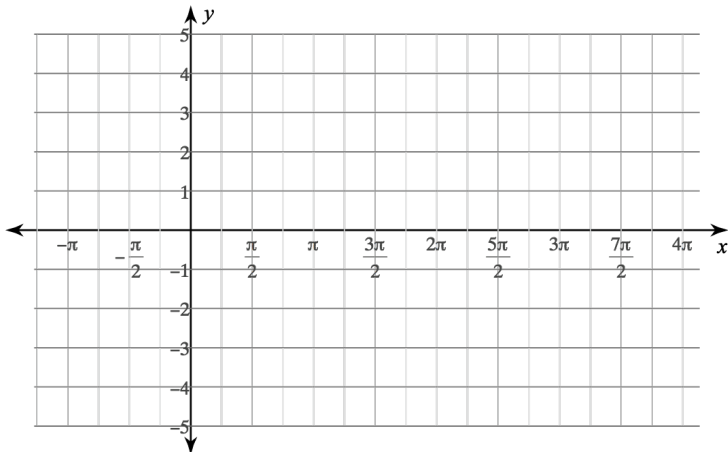
Phase Shift: _____

Midline: _____

Domain: _____

Range: _____

8. $y = 4 \sin\left(2\left(\theta + \frac{\pi}{2}\right)\right)$



Amplitude: _____

Period: _____

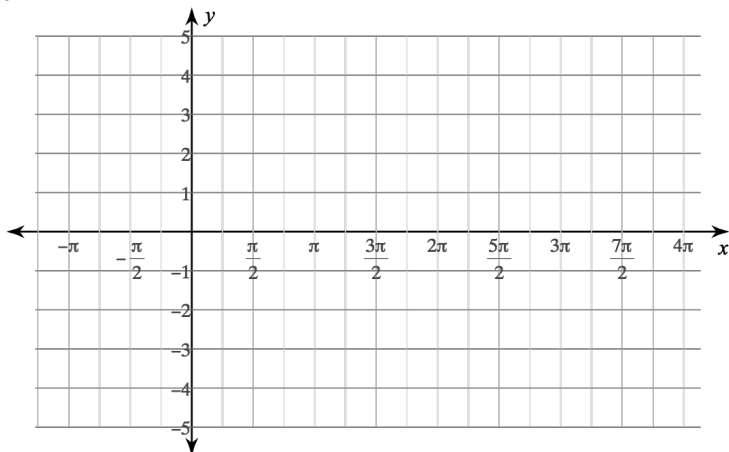
Phase Shift: _____

Midline: _____

Domain: _____

Range: _____

9. $y = 2 \sin 4\theta$



Amplitude: _____

Period: _____

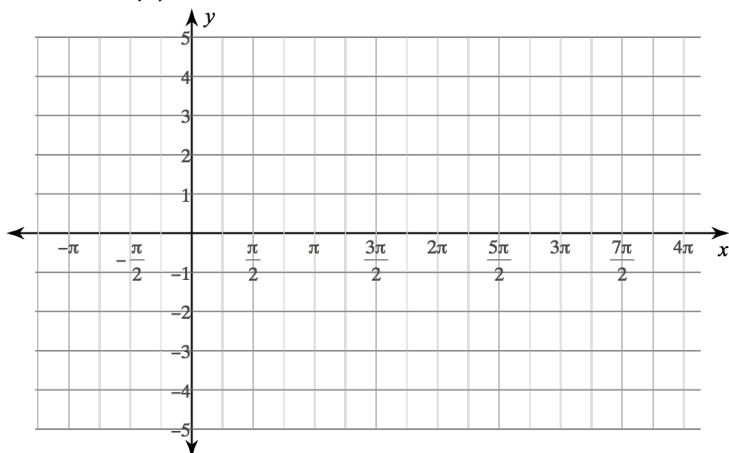
Phase Shift: _____

Midline: _____

Domain: _____

Range: _____

10. $y = \cos\left(\frac{\theta}{2}\right) + 1$



Amplitude: _____

Period: _____

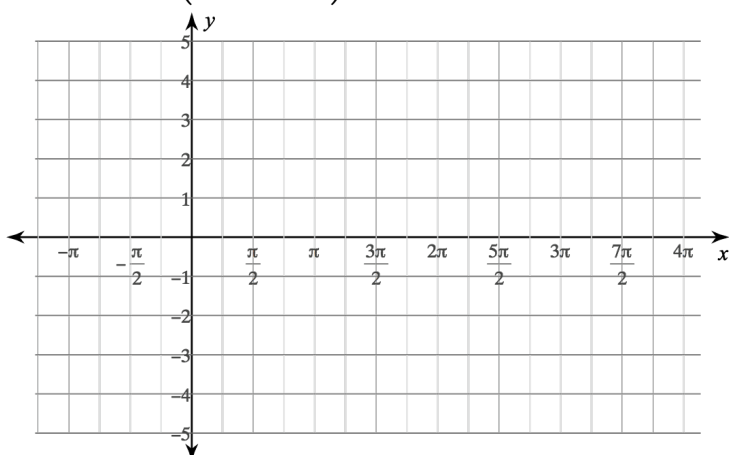
Phase Shift: _____

Midline: _____

Domain: _____

Range: _____

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



Amplitude: _____

Period: _____

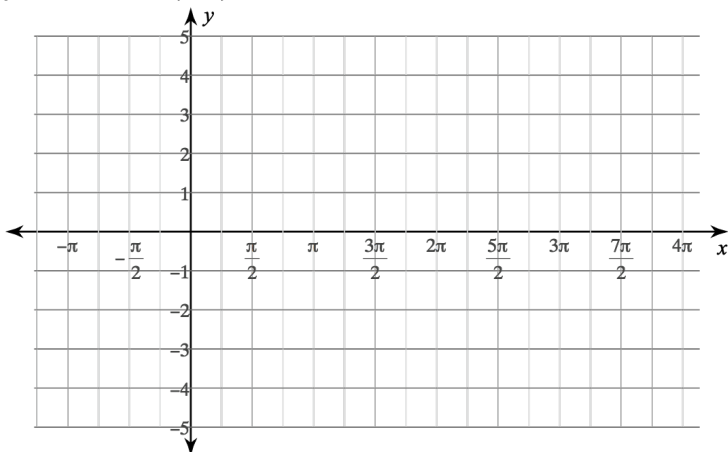
Phase Shift: _____

Midline: _____

Domain: _____

Range: _____

12. $y = -5\sin(2\theta)$



Amplitude: _____

Period: _____

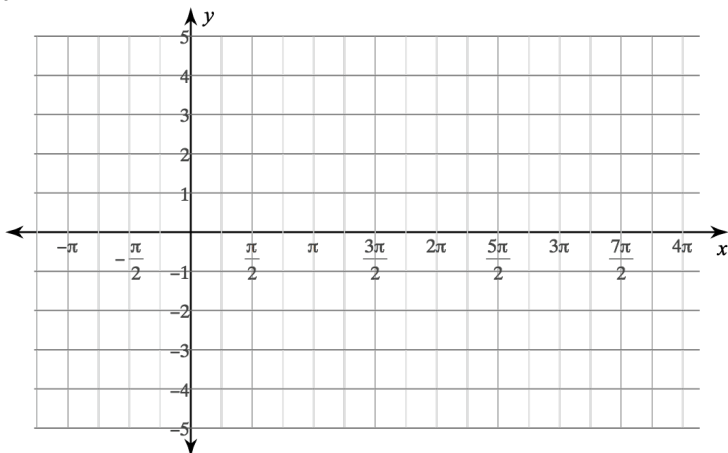
Phase Shift: _____

Midline: _____

Domain: _____

Range: _____

13. $y = 2\sin(\theta)$



Amplitude: _____

Period: _____

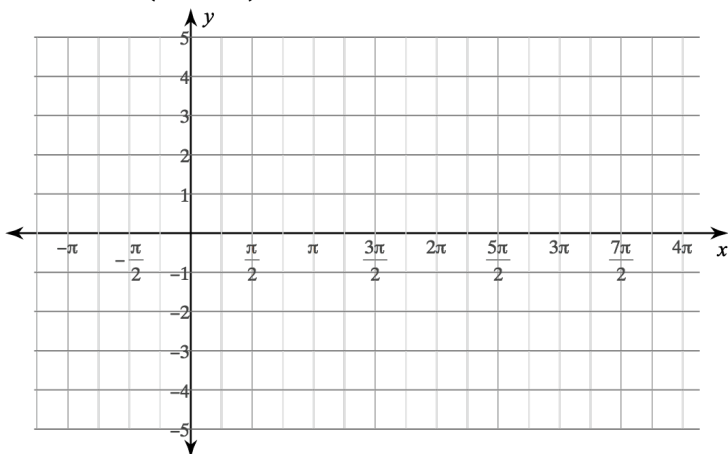
Phase Shift: _____

Midline: _____

Domain: _____

Range: _____

14. $y = \frac{1}{2}\sin\left(\theta - \frac{5\pi}{4}\right) + 1$



Amplitude: _____

Period: _____

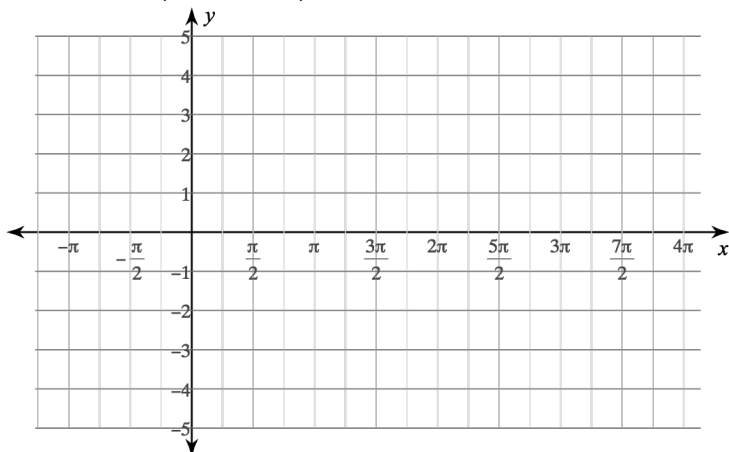
Phase Shift: _____

Midline: _____

Domain: _____

Range: _____

15. $y = 3 \cos\left(\frac{1}{3}(\theta + \pi)\right)$



Amplitude: _____

Period: _____

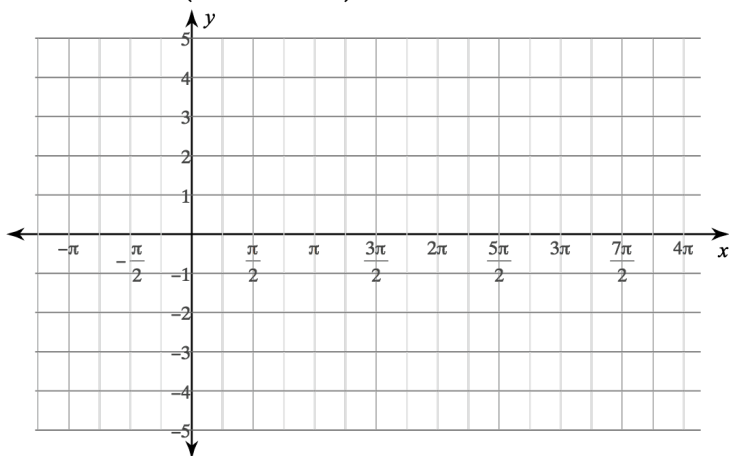
Phase Shift: _____

Midline: _____

Domain: _____

Range: _____

16. $y = -2 \cos\left(\frac{1}{2}(\theta - 2\pi)\right)$



Amplitude: _____

Period: _____

Phase Shift: _____

Midline: _____

Domain: _____

Range: _____