

Provide the requested information for each of the following.

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

- a. Period: _____
- b. Domain: _____
- c. Phase Shift: _____
- d. Range: _____
- e. Reflect across x-axis? _____
- f. Vertical Shift: _____
- g. Amplitude: _____

2. $y = -2\cos(-3\theta) - 1$

- a. Period: _____
- b. Domain: _____
- c. Phase Shift: _____
- d. Range: _____
- e. Reflect across x-axis? _____
- f. Vertical Shift: _____
- g. Amplitude: _____

Provide the requested information for each of the following.

3. If the range of a sine function is $[-22, -10]$, what is the vertical shift?

4. If the range of a cosine function is $[-14, 8]$, what is the vertical shift?

5. If the domain of a cosine function is $\left[\frac{\pi}{4}, \frac{9\pi}{2}\right]$, what is the period?

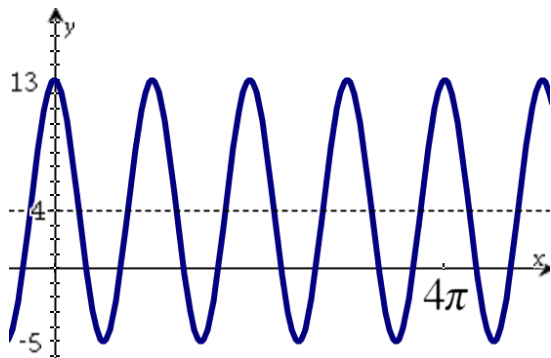
6. If the domain of a sine function is $[-\pi, 5\pi]$, what is the period?

7. If the horizontal axis of a cosine function is at $y = -2$ and the maximum value is at 6, then what is the amplitude?

8. If the horizontal axis of a sine function is at $y = 3$ and the minimum value of the function is at -7, then what is the amplitude?

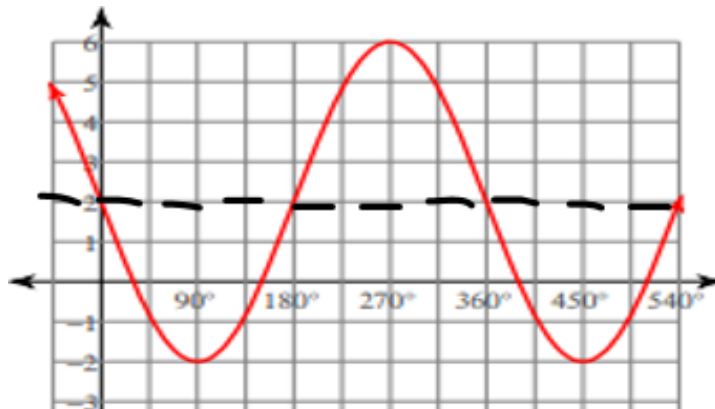
Provide the requested information for each of the following.

9. Cosine Graph -



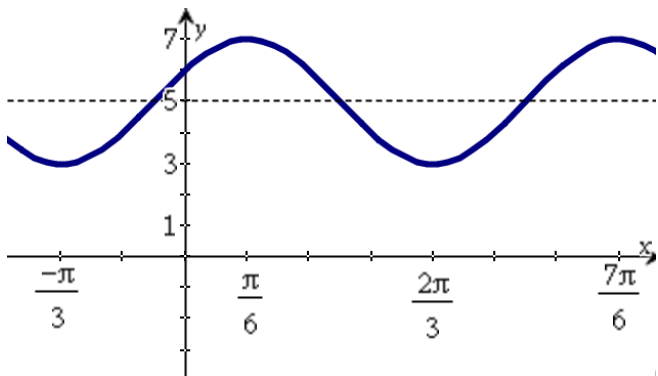
- Amplitude: _____
- Reflect across x-axis? _____
- Phase Shift: _____
- Domain: _____
- Period: _____
- Vertical Shift: _____
- Range: _____

10. Sine Graph -



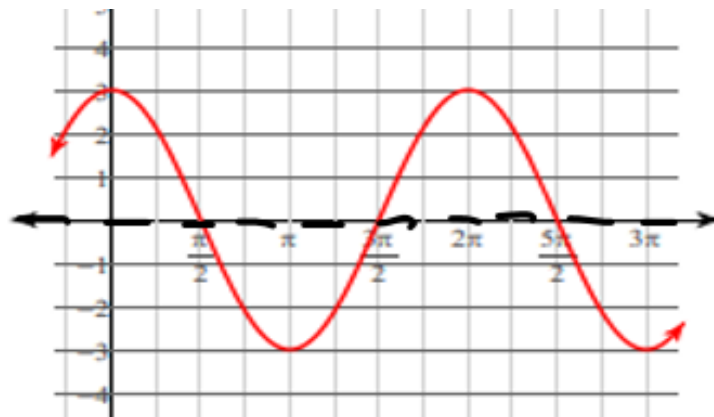
- Amplitude: _____
- Reflect across x-axis? _____
- Phase Shift: _____
- Domain: _____
- Period: _____
- Vertical Shift: _____
- Range: _____

11. Cosine Graph



- Amplitude: _____
- Reflect over horizontal axis? _____
- Phase Shift: _____
- Domain: _____
- Period: _____
- Vertical Shift: _____
- Range: _____

12. Sine Graph



- Amplitude: _____
- Reflect over horizontal axis? _____
- Phase Shift: _____
- Domain: _____
- Period: _____
- Vertical Shift: _____
- Range: _____