

Periodic Graphs

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Name _____

Date _____

Find the amplitude, the period in radians, the phase shift in radians, and the vertical shift.

1) $y = \frac{1}{6} \cdot \sin\left(2\theta - \frac{7\pi}{4}\right) + 5$

2) $y = 6\sin \theta + 5$

3) $y = \frac{1}{9} \cdot \cos\left(3\theta + \frac{3\pi}{2}\right) + 4$

4) $y = 3\sin\left(7\theta - \frac{2\pi}{3}\right) - 4$

5) $y = 6\cos\left(\frac{\theta}{7} + \frac{3\pi}{4}\right) - 2$

6) $y = 10\sin\left(\frac{\theta}{7} + \frac{3\pi}{2}\right) + 5$

$$7) \ y = -1 + 2\sin\left(3\theta + \frac{3\pi}{2}\right)$$

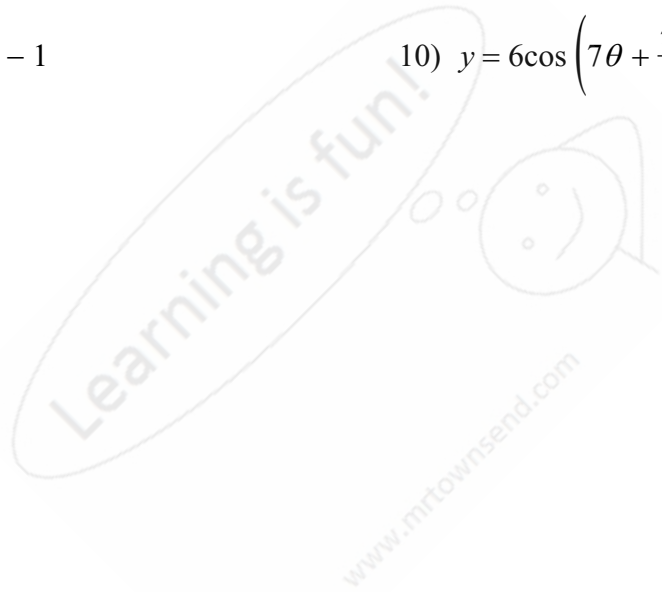
$$8) \ y = -4 + 3\cos\left(3\theta + \frac{\pi}{2}\right)$$

$$9) \ y = \frac{1}{6} \cdot \sin\left(2\theta - \frac{\pi}{6}\right) - 1$$

$$10) \ y = 6\cos\left(7\theta + \frac{\pi}{3}\right) + 4$$

$$11) \ y = \cos \theta - 3$$

$$12) \ y = 9\sin\left(3\theta + \frac{\pi}{3}\right) - 5$$



Answers to Periodic Graphs

- 1) Amplitude: $\frac{1}{6}$
Period: π
Phase shift: Right $\frac{7\pi}{8}$
Vert. shift: Up 5
- 2) Amplitude: 6
Period: 2π
Phase shift: None
Vert. shift: Up 5
- 3) Amplitude: $\frac{1}{9}$
Period: $\frac{2\pi}{3}$
Phase shift: Left $\frac{\pi}{2}$
Vert. shift: Up 4
- 4) Amplitude: 3
Period: $\frac{2\pi}{7}$
Phase shift: Right $\frac{2\pi}{21}$
Vert. shift: Down 4
- 5) Amplitude: 6
Period: 14π
Phase shift: Left $\frac{21\pi}{4}$
Vert. shift: Down 2
- 6) Amplitude: 10
Period: 14π
Phase shift: Left $\frac{21\pi}{2}$
Vert. shift: Up 5
- 7) Amplitude: 2
Period: $\frac{2\pi}{3}$
Phase shift: Left $\frac{\pi}{2}$
Vert. shift: Down 1
- 8) Amplitude: 3
Period: $\frac{2\pi}{3}$
Phase shift: Left $\frac{\pi}{6}$
Vert. shift: Down 4
- 9) Amplitude: $\frac{1}{6}$
Period: π
Phase shift: Right $\frac{\pi}{12}$
Vert. shift: Down 1
- 10) Amplitude: 6
Period: $\frac{2\pi}{7}$
Phase shift: Left $\frac{\pi}{21}$
Vert. shift: Up 4
- 11) Amplitude: 1
Period: 2π
Phase shift: None
Vert. shift: Down 3
- 12) Amplitude: 9
Period: $\frac{2\pi}{3}$
Phase shift: Left $\frac{\pi}{9}$
Vert. shift: Down 5