

§4.6A: Amplitude and Vertical Shifts

Describe the transformation(s) of the following equations.

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

2) $y = 3 \tan \frac{1}{2}x + 4$

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

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

5) $y = 3 \sec\left(\frac{12}{7}\left(x + \frac{5\pi}{12}\right)\right)$

6) $y = -\frac{1}{2} \cot(2x - \pi)$

Use the given information to identify the necessary parts of the graph.

7) $y = 4 \cos \frac{1}{2}(x + 4\pi)$

8) $y = 3 \tan \frac{1}{2}x + 4$

9) $y = \frac{9}{5} \sin\left(-\frac{3}{2}x\right)$

Amplitude: _____ Period: _____

Amplitude: _____ Period: _____

Amplitude: _____ Period: _____

Vertical Shift: _____

Vertical Shift: _____

Vertical Shift: _____

Phase Shift: _____

Phase Shift: _____

Phase Shift: _____

10) $y = \frac{1}{2} \sin 6x - 4$

11) $y = 7 \sin\left(\frac{1}{2}x - \frac{\pi}{6}\right)$

12) $y = -2 \sin(6x + \pi)$

Amplitude: _____ Period: _____

Amplitude: _____ Period: _____

Amplitude: _____ Period: _____

Vertical Shift: _____

Vertical Shift: _____

Vertical Shift: _____

Phase Shift: _____

Phase Shift: _____

Phase Shift: _____