

Name: _____

Graph of Secant and Cosecant Functions

Exercise 1: Determine the vertical stretching/shrinking, period, phase shift, and vertical shift of each function.

1) $y = 3\sec 4x$

2) $y = -3\sec 2x$

3) $y = 5\csc 2x$

4) $y = 2\csc 5x$

5) $y = -2\csc \pi x$

6) $y = -3\csc 2\pi x$

7) $y = 2\csc(\pi x + 3)$

8) $y = 7\sec(x + \pi)$

9) $y = -5\sec\left(2x + \frac{\pi}{2}\right)$

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

11) $y = -\sec\left(\pi x + \frac{\pi}{2}\right) + 2$

12) $y = 2 + 3\sec\left(\frac{\pi}{3}x - \frac{\pi}{4}\right)$

13) $y = 3\csc\left(\pi x + \frac{\pi}{2}\right) + 2$

14) $y = 4\csc\left(x - \frac{\pi}{3}\right) - 1$

Exercise 2: Sketch the graph of the function. Include two full periods

1) $y = \sec \frac{x}{2}$

2) $y = -\sec \frac{2x}{3}$

3) $y = 2\csc \frac{2x}{5}$

4) $y = \csc \pi x$

5) $y = \csc \frac{\pi x}{2}$

6) $y = 2\csc(2x + \pi)$

7) $y = 2\csc(3x - \pi)$

8) $y = 4\sec(x - \pi)$

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

10) $y = 4\sec\left(2\pi x - \frac{\pi}{6}\right)$

11) $y = \sec\left(\pi x - \frac{\pi}{2}\right) + 1$

12) $y = 2\sec\left(\frac{\pi}{6}x - \frac{\pi}{3}\right) + 5$

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

14) $y = 4\csc\left(3x - \frac{\pi}{6}\right) + 1$