

Name: _____

Date: _____ Period: _____

Worksheet

1. Find an x -value where the trigonometric function has a vertical asymptote.

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

2. Find an x -value where the trigonometric function has a vertical asymptote.

$$y = 4 \csc \left(\frac{1}{4}x \right)$$

3. Find an x -value where the trigonometric function has a vertical asymptote.

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

4. Find an x -value where the trigonometric function has a vertical asymptote.

$$y = -3 \csc \left(\frac{1}{4}x - \frac{5\pi}{6} \right) + 3$$

5. Find an x -value where the trigonometric function has a vertical asymptote.

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

6. Find an x -value where the trigonometric function has a vertical asymptote.

$$y = -\tan (2x)$$

7. Find an x -value where the trigonometric function has a vertical asymptote.

$$y = 3 \tan \left(\frac{1}{4}x \right)$$

8. Find an x -value where the trigonometric function has a vertical asymptote.

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

9. Find an x -value where the trigonometric function has a vertical asymptote.

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

10. Find an x -value where the trigonometric function has a vertical asymptote.

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

11. Find an x -value where the trigonometric function has a vertical asymptote.

$$y = -2 \sec \left(3x + \frac{\pi}{6} \right) - 1$$

12. Find an x -value where the trigonometric function has a vertical asymptote.

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

13. Find an x -value where the trigonometric function has a vertical asymptote.

$$y = -3 \cot \left(2x - \frac{\pi}{6} \right) - 4$$

14. Find an x -value where the trigonometric function has a vertical asymptote.

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

15. Find an x -value where the trigonometric function has a vertical asymptote.

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

16. Find an x -value where the trigonometric function has a vertical asymptote.

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