1. –/2 points LarTrig9 1.6.001. My Notes Ask You

Fill in the blanks.

The tangent, cotangent, and cosecant functions are ---Select--- , so the graphs of these functions have symmetry with respect to the ---Select--- .

2. –/1 points LarTrig9 1.6.002. My No

Fill in the blank.

The graphs of the tangent, cotangent, secant, and cosecant functions all have ---Select--- asymptotes.

3. –/1 points LarTrig9 1.6.003. M

Fill in the blank.

To sketch the graph of a secant or cosecant function, first make a sketch of its ---Select--- function.

4. –/1 points LarTrig9 1.6.004. My Notes

Fill in the blank.

For the functions given by $f(x) = g(x) \cdot \sin x$, $g(x)$ is called the ---Select--- factor of the function $f(x)$.

5. –/1 points LarTrig9 1.6.005.

Fill in the blank.

6. –/1 points LarTrig9 1.6.006.

Fill in the blank.

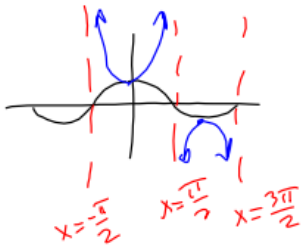
The domain of $y = \cot x$ is all real numbers such that _____

7. –/1 points LarTrig9 1.6.007.

Fill in the blank.

The range of $y = \sec x$ is _____.

How low can you go?



8. –/1 points LarTrig9 1.6.008.

Fill in the blank. The period of $y = \csc x$ is_____

9. –/1 points LarTrig9 1.6.015.

Sketch the graph of the function. One Period's fine.

$$y = \frac{1}{4}\tan x$$

10. –/1 points LarTrig9 1.6.016.

Sketch the graph of the function. One period will suffice.

$y = \tan 3x$ The author should enclose the "3x" in parentheses.

Graphs on tests are full-on, all 4 moves.

11. –/1 points LarTrig9 1.6.017.

Sketch the graph of the function.

$y = -2 \tan 3x$

12. –/1 points LarTrig9 1.6.018.

Sketch the graph of the function.

$y = -5 \tan \pi x$

13. –/1 points LarTrig9 1.6.019.

Sketch the graph of the function.

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

14. –/1 points LarTrig9 1.6.021.

Sketch the graph of the function.

$y = \sec \pi x$

15. –/1 points LarTrig9 1.6.022.

Sketch the graph of the function.

$y = 5 \csc 6x$

14. –/1 points LarTrig9 1.6.021.

Sketch the graph of the function.

$y = \sec \pi x$

15. –/1 points LarTrig9 1.6.022.

Sketch the graph of the function.

$y = 5 \csc 6x$

16. –/1 points LarTrig9 1.6.024.

Sketch the graph of the function.

$y = -2 \sec 4x + 3$

20. –/1 points LarTrig9 1.6.034.

Sketch the graph of the function. $y = \csc(3x - \pi)$

21. –/1 points LarTrig9 1.6.048.

Use a graphing utility to graph the function.

$y = \frac{1}{3} \sec\left(\frac{\pi x}{8} + \frac{\pi}{2}\right)$

22. –/1 points LarTrig9 1.6.049.

Use a graph to solve $\tan x = -1$ on $[-2\pi, 2\pi]$. Express the solution(s) as a set.

23. –/1 points LarTrig9 1.6.051.

Use a graph to solve $\cot(x) = -1$ on $[-2\pi, 2\pi]$.

24. –/1 points LarTrig9 1.6.053.

Use a graph to solve $\sec x = -\frac{2\sqrt{3}}{3}$ on the interval $[-2\pi, 2\pi]$. I'd as soon see you drawing triangles. But DO try to render the graph of secant and visualize where it obtains the given value. I'd also look at the reciprocal equation and see if I couldn't make a 1-2-$\sqrt{3}$ triangle out of it.

25. –/1 points LarTrig9 1.6.055.

Use a graph to solve $\csc(x) = 2$ on $[-2\pi, 2\pi]$

26. –/1 points LarTrig9 1.6.062.MI.

Determine whether $f(x) = x^2 - 3 \sec x$ is odd, even or neither. Confirm with a graphing utility.

27. –/1 points LarTrig9 1.6.063.

Determine whether $g(x) = x \csc x$ is odd, even or neither. Confirm with a graphing utility.

29. –/2 points LarTrig9 1.6.072.

Graph $f(x) = \cos^2 \frac{\pi x}{2}$, $g(x) = \frac{1}{2}(1 + \cos \pi x)$

You don't really have the skills built to graph the 1st. But when we get to power-reduction formula, you'll see that it is identically the 2nd. And you *do* have the skills to graph the 2nd!

30. –/2 points LarTrig9 1.6.073.

Use a graphing utility to graph the function and the damping factor of the function in the same viewing window.

$g(x) = x \cos \pi x$ This one's important enough for you to keep in your toolkit.

31. –/2 points LarTrig9 1.6.074.

Use a graphing utility to graph the function and the damping factor of the function in the same viewing window. $f(x) = \cos x$

if you also graph - x^2 you will have f bracketed in between.

32. –/2 points LarTrig9 1.6.078.

Use a graphing utility to graph the function.

$y = \frac{3}{x} + \sin 2x, \quad x > 0$

33. –/2 points LarTrig9 1.6.079.

Use a graphing utility to graph the function.

$g(x) = \frac{4 \sin x}{x}$ This is an important example. It is not DEFINED at $x = 0$, but it approaches $y = 4$, as x approaches 0!

34. –/2 points LarTrig9 1.6.081.

Use a graphing utility to graph the function.

$f(x) = \sin \frac{1}{x}$

35. –/2 points LarTrig9 1.6.082.

Use a graphing utility to graph the function.

$h(x) = x \sin \frac{3}{x}$ When we dampen this "Topologist's Sine Curve," it still wiggles infinitely often in the vicinity of $x = 0$; however, the x times the sin(1/x) dampens it down to ZERO near $x = 0$.

In Calculus, we show that this actually has a limit as x approaches zero, and the limit is zero.

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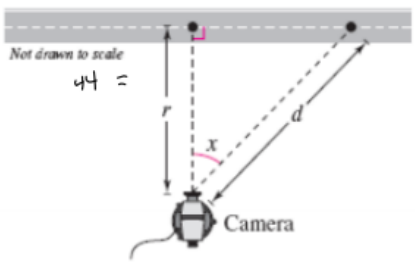
36. ɔints LarTrig9 1.6.084.MI.

A television camera is on a reviewing platform $r = 44$ meters from the street on which a parade will be passing from left to right (see figure).



Writ the distance d from the camera to a particular unit in the parade as a function of the angle x. (Consider x as negative when a unit in the parade approaches from the left. Graph the function over the interval

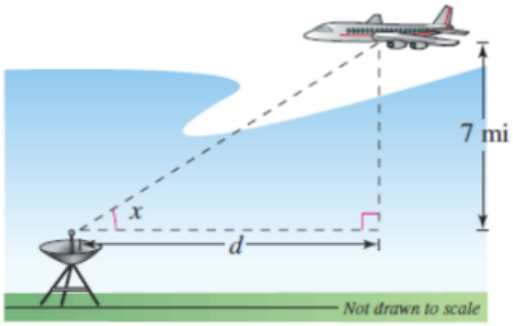
$\{x \mid -\pi/2 < x < \pi/2\}$

37. –/2 points LarTrig9 1.6.085.

A plane flying at an altitude of 7 miles above a radar antenna will pass directly over the radar antenna (see figure).

Let d be the ground distance from the antenna to the point directly under the plane and

let x be the angle of the elevation to the plane from the antenna. (d is positive as the plane approaches the antenna.)



Write d as a function of x. Graph the function over the interval $[0, \pi]$