

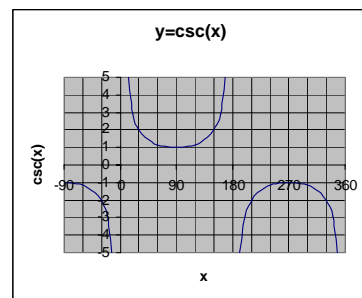
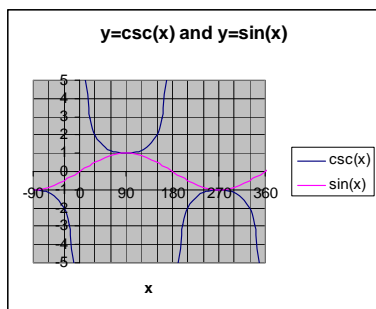
Graphs of Reciprocal Trigonometric Functions

1. Use your calculator to make a table of some values for the sine and cosecant functions. Notice what happens to the cosecant function when the value of the sine function is zero. This is important!
2. Graph them and see that your graphs agree with these.
3. So the same for the cosine and secant functions.
4. Continue until you remember these graphs and can easily make similar ones (over these domains or larger or smaller domains.)
5. Make a table of values for the tangent and cotangent functions. It is not particularly helpful to graph both of these on the same axes. You already can recognize the graph of the tangent function. Now graph the cotangent function.

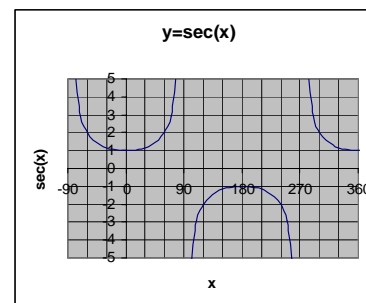
x	sin(x)	csc(x)
0		
20		
40		
60		
80		
etc.		

x	cos(x)	sec(x)
0		
20		
40		
60		
80		
etc.		

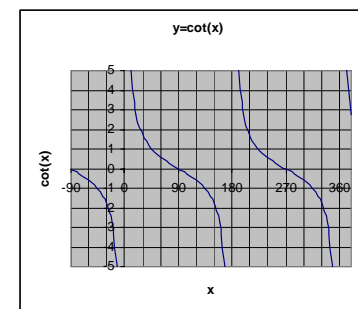
x	tan(x)	cot(x)
0		
20		
40		
60		
80		
etc.		



Domain: all real numbers except integer multiples of 180^0 .
Range: $(-\infty, 1] \cup [1, \infty)$



Domain: all real numbers except odd-integer multiples of 90^0 .
Range: $(-\infty, 1] \cup [1, \infty)$



Domain: all real numbers except integer multiples of 180^0 .
Range: all real numbers