

We defined $\tan \theta = \frac{\sin \theta}{\cos \theta}$. The following questions help you think a little more about \tan . Yes, summer is not too far away. :)

1. What is the period of $\tan x$
2. For what values of x is $\tan x$ positive? Negative? Zero?
3. Where does $\tan x$ have vertical asymptotes?
4. Does $\lim_{x \rightarrow \frac{\pi}{2}} \tan x$ exist? Why or why not?
5. Does $\tan(|x|) = |\tan(x)|$? Why or why not?
6. Show $\tan^2 x + 1 = \sec^2 x$.
7. Show $\cos x \tan x \csc x = 1$.