

3. Show that there is no triangle ABC with $\angle A = 30^\circ$, $a = 5$, and $b = 15$.

4. Simplify $\frac{\sec x + \sin x}{\cos x + \csc x}$ (Hint: your answer should be one of the six basic trigonometric functions).

5. Simplify $\sin x \cos x + \tan x \sin^2 x$ (Hint your answer should be the same as in 4).