

TRIGONOMETRY II - LESSON TWO

PART II ADDITION & SUBTRACTION IDENTITIES

Questions: For each of the following, write an algebraic proof.

1) $\sec x - \sin x = \frac{1 - \sin x \cos x}{\cos x}$

2) $\sin x + \tan x \sin x = \frac{\sin x \cos x + \sin^2 x}{\cos x}$

3) $\sec^2 x + \cot x = \frac{\sin x + \cos^3 x}{\cos^2 x \sin x}$

4) $\csc^2 x - \tan x = \frac{\cos x - \sin^3 x}{\sin^2 x \cos x}$

5) $\csc x - \sec x = \frac{\cos x - \sin x}{\sin x \cos x}$

6) $\sec x - \tan x = \frac{1 - \sin x}{\cos x}$

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$$7) \cos x + \tan x = \frac{\cos^2 x + \sin x}{\cos x}$$

$$8) \cot x + \sin x = \frac{\cos x + \sin^2 x}{\sin x}$$

$$9) 1 + \tan x = \frac{\cos x + \sin x}{\cos x}$$

$$10) \csc x + 1 = \frac{1 + \sin x}{\sin x}$$