

Answer on Question #51812, Math, Trigonometry

Task:

Deduce the identity of :

$$1 + \tan^2 \theta$$

A $\sec \theta$

B $\sin \theta$

C $\cos \theta$

D $\sec^2 \theta$

Answer: D $\sec^2 \theta$

$$1 + \tan^2 \theta = 1 + \frac{\sin^2 \theta}{\cos^2 \theta} = \frac{\cos^2 \theta + \sin^2 \theta}{\cos^2 \theta} = \frac{1}{\cos^2 \theta} = \sec^2 \theta$$