

Answer on Question #43624 – Math – Trigonometry

$$\tan A + \sec A - \frac{1}{\tan A} - \sec A + 1 = 1 + \frac{\sin A}{\cos A}$$

Solution.

$$\tan A + \sec A - \frac{1}{\tan A} - \sec A + 1 = 1 + \frac{\sin A}{\cos A}$$

Then

$$\tan A - \frac{1}{\tan A} = \frac{\sin A}{\cos A}$$

$$\tan A - \frac{1}{\tan A} = \tan A,$$

as $\frac{\sin A}{\cos A} = \tan A.$

$$\frac{1}{\tan A} = 0$$

$$\cot A = 0$$

Take the inverse cotangent of both sides:

$$A = \cot^{-1} 0 \rightarrow A = \frac{\pi}{2} + \pi n \text{ for } n \in \mathbb{Z}.$$

Answer: $A = \frac{\pi}{2} + \pi n, n \in \mathbb{Z}.$