

## Answer on Question #81507 – Math – Trigonometry

### Question

Complete the identity?

$$\sin x / \cos x + \cos x / \sin x =$$

### Solution

$$\begin{aligned} \sin x / \cos x + \cos x / \sin x &= ((\sin x)^2 + (\cos x)^2) / (\sin x \cdot \cos x) = 1 / (\sin x \cdot \cos x) = 2 / (2 \cdot \sin x \cdot \cos x) = \\ &= 2 / \sin(2x) = 2 \operatorname{cosec}(2x). \end{aligned}$$

**Answer:**  $2 / \sin(2x) = 2 \operatorname{cosec}(2x)$ .