Problem #6168 Complete the the equation $csc(\theta) + 1/cot(\theta) = \ldots$.

Solution There can be various solutions. One of them is $csc\theta + 1/cot\theta = \dfrac{1}{\sin\theta} + \dfrac{\sin\theta}{\cos\theta} = \dfrac{\cos\theta + \sin^2\theta}{\sin\theta\cos\theta} = (\cot\theta + \sin\theta)\dfrac{1}{\cos\theta} = (\cot\theta + 1/csc\theta)\cdot sec\theta$.

Answer $csc(\theta) + 1/cot(\theta) = (\cot\theta + 1/csc\theta)\cdot sec\theta$.