2. $\sin\theta\cos\theta\csc\theta = \sin\theta\cos\theta\,\dfrac{1}{\sin\theta} = \cos\theta$

4. $\dfrac{\tan x + \cot x}{\sec x\csc x} = \dfrac{\dfrac{\sin x}{\cos x} + \dfrac{\cos x}{\sin x}}{\dfrac{1}{\sin x\cos x}} = \left(\dfrac{\sin x}{\cos x} + \dfrac{\cos x}{\sin x}\right)\sin x\cos x = \sin^2 x + \cos^2 x = 1$

6. $\cos^2 x(1 + \tan^2 x) = \cos^2 x\left(1 + \dfrac{\sin^2 x}{\cos^2 x}\right) = \cos^2 x + \sin^2 x = 1$

8. $\cos^3 x + \sin^2 x\cos x = \cos x(\cos^2 x + \sin^2 x) = \cos x$

10. $\dfrac{\tan x}{\sec(-x)} = \dfrac{\tan x}{\sec x} = \dfrac{\sin x}{\cos x}\cdot\cos x = \sin x$

12. $\dfrac{\sec x - \cos x}{\tan x} = \dfrac{\dfrac{1}{\cos x} - \dfrac{\cos^2 x}{\cos x}}{\dfrac{\sin x}{\cos x}} = \dfrac{1 - \cos^2 x}{\sin x} = \dfrac{\sin^2 x}{\sin x} = \sin x$

14. $\dfrac{\sin x}{\csc x} + \dfrac{\cos x}{\sec x} = \sin x\sin x + \cos x\cos x = \sin^2 x + \cos^2 x = 1$

16. $\tan x\cos x\csc x = \dfrac{\sin x}{\cos x}\cdot\cos x\cdot\dfrac{1}{\sin x} = 1$

18. $\dfrac{1 + \cot A}{\csc A} = (1 + \cot A)\sin A = \sin A + \sin A\cot A = \sin A + \sin A\,\dfrac{\cos A}{\sin A} = \sin A + \cos A$

20. $\dfrac{\cos x}{\sec x + \tan x} = \dfrac{\cos x}{\dfrac{1}{\cos x} + \dfrac{\sin x}{\cos x}} = \dfrac{\cos^2 x}{1 + \sin x} = \dfrac{1 - \sin^2 x}{1 + \sin x} = \dfrac{(1 + \sin x)(1 - \sin x)}{1 + \sin x} = 1 - \sin x$

22. $\dfrac{\tan x}{\sec x} = \dfrac{\sin x}{\cos x}\cdot\cos x = \sin x$

24. $\dfrac{\cot x\sec x}{\csc x} = \dfrac{\cos x}{\sin x}\cdot\dfrac{1}{\cos x}\cdot\sin x = 1$

26. $\dfrac{\cos v}{\sec v\sin v} = \cos v\cdot\dfrac{\cos v}{\sin v} = \dfrac{1 - \sin^2 v}{\sin v} = \csc v - \sin v$

28. $\cos(-x) - \sin(-x) = \cos x - (-\sin x) = \cos x + \sin x$

30. $\csc x[\csc x + \sin(-x)] = \csc^2 x - \sin x\csc x = \csc^2 x - 1 = \cot^2 x$

32. $(\sin x + \cos x)^2 = \sin^2 x + 2\sin x\cos x + \cos^2 x = 1 + 2\sin x\cos x$

34. $\dfrac{\cos x}{\sec x} + \dfrac{\sin x}{\csc x} = \cos^2 x + \sin^2 x = 1$

36. $(\sin x + \cos x)^4 = [(\sin x + \cos x)^2]^2 = (\sin^2 x + 2\sin x\cos x + \cos^2 x)^2 = (1 + 2\sin x\cos x)^2$