66. $\dfrac{\cos\theta}{1-\sin\theta} = \dfrac{\cos\theta}{1-\sin\theta} \cdot \dfrac{1+\sin\theta}{1+\sin\theta} = \dfrac{\cos\theta(1+\sin\theta)}{1-\sin^2\theta} = \dfrac{\cos\theta(1+\sin\theta)}{\cos^2\theta} = \dfrac{1}{\cos\theta} + \dfrac{\sin\theta}{\cos\theta}$

$= \sec\theta + \tan\theta$

68. $\dfrac{1+\tan x}{1-\tan x} = \dfrac{1+\dfrac{\sin x}{\cos x}}{1-\dfrac{\sin x}{\cos x}} \cdot \dfrac{\cos x}{\cos x} = \dfrac{\cos x + \sin x}{\cos x - \sin x}$

70. $\dfrac{1}{1-\sin x} - \dfrac{1}{1+\sin x} = \dfrac{(1+\sin x)-(1-\sin x)}{(1-\sin x)(1+\sin x)} = \dfrac{2\sin x}{1-\sin^2 x} = \dfrac{2\sin x}{\cos^2 x} = 2\dfrac{\sin x}{\cos x} \cdot \dfrac{1}{\cos x}$

$= 2\tan x \sec x$

72. $\dfrac{1+\sin x}{1-\sin x} - \dfrac{1-\sin x}{1+\sin x} = \dfrac{(1+\sin x)^2 - (1-\sin x)^2}{(1-\sin x)(1+\sin x)} = \dfrac{1+2\sin x + \sin^2 x - 1 + 2\sin x - \sin^2 x}{1-\sin^2 x}$

$= \dfrac{4\sin x}{\cos^2 x} = 4\dfrac{\sin x}{\cos x} \cdot \dfrac{1}{\cos x} = 4\tan x \sec x$

74. $\tan^2 x - \cot^2 x = (\sec^2 x - 1) - (\csc^2 x - 1) = \sec^2 x - \csc^2 x$

76. $\dfrac{\cot x + 1}{\cot x - 1} = \dfrac{\cot x + 1}{\cot x - 1} \cdot \dfrac{\tan x}{\tan x} = \dfrac{\tan x \cot x + \tan x}{\tan x \cot x - \tan x} = \dfrac{1+\tan x}{1-\tan x}$

78. $\dfrac{\tan v - \cot v}{\tan^2 v - \cot^2 v} = \dfrac{\tan v - \cot v}{(\tan v - \cot v)(\tan v + \cot v)} = \dfrac{1}{\tan v + \cot v} = \dfrac{1}{\dfrac{\sin v}{\cos v} + \dfrac{\cos v}{\sin v}} \cdot \dfrac{\sin v \cos v}{\sin v \cos v}$

$= \dfrac{\sin v \cos v}{\sin^2 v + \cos^2 v} = \sin v \cos v$

80. $\dfrac{\tan x + \tan y}{\cot x + \cot y} = \dfrac{\dfrac{\sin x}{\cos x} + \dfrac{\sin y}{\cos y}}{\dfrac{\cos x}{\sin x} + \dfrac{\cos y}{\sin y}} = \dfrac{\dfrac{\sin x \cos y + \cos x \sin y}{\cos x \cos y}}{\dfrac{\cos x \sin y + \sin x \cos y}{\sin x \sin y}}$

$= \left(\dfrac{\sin x \cos y + \cos x \sin y}{\cos x \cos y}\right)\left(\dfrac{\sin x \sin y}{\cos x \sin y + \sin x \cos y}\right) = \dfrac{\sin x \sin y}{\cos x \cos y} = \tan x \tan y$