

$$11. \cos(x+y) \cos y + \sin(x+y) \sin y = \cos x$$

$$\begin{cases} \cos(x+y) = \cos x \cos y - \sin x \sin y \\ \sin(x+y) = \sin x \cos y + \sin y \cos x \end{cases}$$

$$\cos(x+y) \cos y + \sin(x+y) \sin y =$$

$$= \underbrace{\cos x \cos^2 y} - \cancel{\sin x \sin y \cos y} + \cancel{\sin x \cos y \sin y} + \underbrace{\sin^2 y \cos x}$$

$$= \underbrace{\cos x (\cos^2 y + \sin^2 y)}_{= 1}$$

$$= \cos x //$$

$$12. \sin x - \tan y \cos x = \frac{\sin(x-y)}{\cos y}$$

$$\rightarrow \frac{\sin(x-y)}{\cos y} = \frac{\sin x \cos y - \sin y \cos x}{\cos y}$$

$$= \sin x - \tan y \cos x //$$