(14-cont)

$$= \frac{4 \, tg\, x}{2(1+tg^2 x)} = \frac{2\, tg\, x}{\sec^2 x}$$

$$= \frac{2\,\frac{\sin x}{\cos x}}{\frac{1}{\cos^2 x}} = 2\,\frac{\sin x}{\cos x}\cos^2 x$$

$$= 2\sin x \cos x$$

$\therefore$

$$\boxed{\frac{Tg(\frac{\pi}{4}+x) - Tg(\frac{\pi}{4}-x)}{Tg(\frac{\pi}{4}+x) + Tg(\frac{\pi}{4}-x)} = 2\sin x \cos x}$$

15) $\sin(x+y)\sin(x-y) = \cos^2 y - \cos^2 x$

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

Then,

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

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

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

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

$\Longrightarrow$