35) $\sec x - tg\, x = tg\left(\frac{\pi}{4} - \frac{x}{2}\right)$

<u>right-hand side</u>

$$tg\left(\frac{\pi}{4} - \frac{x}{2}\right) = \frac{tg\frac{\pi}{4} - tg\frac{x}{2}}{1 + tg\frac{\pi}{4}\, tg\frac{x}{2}} = \frac{1 - tg\frac{x}{2}}{1 + tg\frac{x}{2}}$$

$$= \frac{1 - \frac{\sin\frac{x}{2}}{\cos\frac{x}{2}}}{1 + \frac{\sin\frac{x}{2}}{\cos\frac{x}{2}}} = \boxed{\frac{\cos\frac{x}{2} - \sin\frac{x}{2}}{\cos\frac{x}{2} - \sin\frac{x}{2}}}$$

$$\sec x - tg\, x = \frac{1}{\cos x} - \frac{\sin x}{\cos x} = \frac{1 - \sin x}{\cos x}$$

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

$$= \frac{\sin^2\frac{x}{2} + \cos^2\frac{x}{2} - 2\sin\frac{x}{2} \cdot \cos\frac{x}{2}}{\cos^2\frac{x}{2} - \sin^2\frac{x}{2}}$$

$$= \frac{\left(\cos\frac{x}{2} - \sin\frac{x}{2}\right)^{\cancel{2}}}{\cancel{\left(\cos\frac{x}{2} - \sin\frac{x}{2}\right)}\left(\cos\frac{x}{2} + \sin\frac{x}{2}\right)}$$

$$= \boxed{\frac{\cos\frac{x}{2} - \sin\frac{x}{2}}{\cos\frac{x}{2} + \sin\frac{x}{2}}}$$

$\therefore \quad \| \sec x - tg\, x = tg\left(\frac{\pi}{4} - \frac{x}{2}\right) \|$