36) $\dfrac{\sin 2x}{1+\cos 2x} \quad \dfrac{\cos x}{1+\cos x} = tg\,\dfrac{x}{2}$

$\rightarrow // \dfrac{\sin 2x}{1+\cos 2x} \quad \dfrac{\cos x}{1+\cos x} = \dfrac{2\sin x \cos x}{1+(2\cos^2 x-1)} \quad \dfrac{\cos x}{1+\cos x}$

$= \dfrac{\cancel{2}\sin x\,\cancel{\cos x}}{\cancel{2}\cancel{\cos^2}x} \quad \dfrac{\cancel{\cos x}}{1+\cos x}$

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

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

$= tg\,\frac{x}{2} //$

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37) $\sin^2 x + \cos^4 x = \cos^2 x + \sin^4 x$

$\rightarrow // \sin^2 x + \cos^4 x = \sin^2 x + (\cos^2 x)^2$

$= \sin^2 x + (1-\sin^2 x)^2$

$= \sin^2 x + 1 - 2\sin^2 x + \sin^4 x$

$= \underbrace{1-\sin^2 x} + \sin^4 x$

$= \cos^2 x + \sin^4 x //$