$$I = \int \sqrt{1+(1+u^2)^2} \, \frac{u \, du}{1+u^2}, \quad z = 1+u^2, \quad dz =$$

$$I = \frac{1}{2} \int \sqrt{1+z^2}$$

$$\int \frac{1+z}{z\sqrt{1+z^2}} \, dz = \frac{1}{2} \sqrt{1+z^2} + \frac{1}{2} \Big|_1, \quad I_1$$

$$\cdot z = 1/t, \, dz =$$

$$I_1 = \int \frac{\frac{-dt}{t^2}}{\frac{1}{t}\sqrt{1+\frac{1}{t^2}}} = -\ln\left(t + \sqrt{1}\right.$$

$$= \ln z - \ln\left(1+\sqrt{1+z^2}\right) + C_1 = \ln$$

$$\frac{1}{z^2}\Big) +$$

$$= \ln\left(1+tg^2 x\right) - \ln\left(1+\sqrt{1+\left(\right.}\right.$$

$$\cos$$

$$\cos^2 x + \sqrt{\cos^4 x + 1}\right) + 2 \cdot \ln |\cos x|$$

$$\cos^4 x +$$