

t-Substitution

$$t = \tan \frac{x}{2}$$

$$dx = \frac{2}{1+t^2} dt$$

$$\sin x \equiv \frac{2t}{1+t^2}$$

$$\cos x \equiv \frac{1-t^2}{1+t^2}$$

$$\tan x \equiv \frac{2t}{1-t^2}$$