

$$\int \frac{dx}{4+9x^2}$$

$$\int \frac{dx}{4\left(1+\frac{9x^2}{4}\right)}$$

$$\frac{1}{4} \int \frac{dx}{1+\left(\frac{3x}{2}\right)^2}$$

$$\frac{1}{4} \cdot \frac{2}{3} \int \frac{dt}{1+t^2}$$

$$\frac{1}{6} \operatorname{arctg} t = \frac{1}{6} \operatorname{arctg} \frac{3x}{2} + C$$

$$\int a^x dx = \frac{a^x}{\ln a}$$

$$\int \frac{1}{1+x^2} dx = \operatorname{arctg} x$$

SMEN

$$\frac{3x}{2} = t$$

$$\frac{3}{2} dx = dt$$

$$dx = \frac{2dt}{3}$$