

$$\int \arctg x \, dx =$$

INT-S1-019

PER PARTI

$$= \int 1 \cdot \arctg x \, dx =$$

$$= (\int 1) \cdot \arctg x - \int (\int 1) (D \arctg x) \, dx =$$

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

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

$$= \boxed{x \arctg x - \frac{1}{2} \ln(1+x^2) + k}$$