

$$\int x^2 \ln x \, dx =$$

INT-S1-035

- PER PARTI

$$= [S_{x^2}] \cdot \ln x - \int [S_{x^2}] [D \ln x] \, dx =$$

$$= \frac{1}{3} x^3 \ln x - \int \frac{1}{3} x^3 \cdot \frac{1}{x} \, dx =$$

$$= \frac{1}{3} x^3 \ln x - \frac{1}{3} \int x^2 \, dx =$$

$$= \frac{1}{3} x^3 \ln x - \frac{1}{3} \cdot \frac{1}{3} x^3 =$$

$$= \boxed{\frac{1}{3} x^3 \ln x - \frac{1}{9} x^3 + k}$$