

$$\int \frac{\ln^6 x}{x} dx =$$

INT-S1-016

TIPO: $\int f'(x) f(x)^n dx = \frac{1}{n+1} f(x)^{n+1} + k$

SOSTITUZ.: $\ln x = z$

$$x = e^z$$

$$x' = \frac{dx}{dz} = e^z$$

$$dx = e^z dz$$

$$= \int \frac{z^6}{\cancel{e^z}} \cancel{e^z} dz =$$

$$= \int z^6 dz = \frac{1}{7} z^7 + k =$$

$$= \boxed{\frac{1}{7} (\ln x)^7 + k}$$