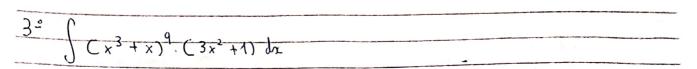
RESOLUÇÃO INTEGRAIS POR SUBSTITUIÇÃO



$$u = x^{3} + x$$

$$du = 3x^{2} + 1 dx$$

$$\int u^{4} du = \frac{u}{4+1} + C = \underline{u^{10}} + C = \frac{(x^{3} + x)^{10}}{10} + C$$

$$u = \ln x$$

$$du = \frac{1}{2} dx$$

$$u = \ln x + C = \frac{2}{2} \ln x + C$$

$$u = \text{ arc tg } x$$

$$du = \frac{1}{1+x^2} dx$$

$$\int u du = \frac{1}{2} + C = \left(\text{arc tg } x\right)^2 + C$$

$$u = 1 + 3 \text{ son } x$$

$$du = 3 \cos x \, dx$$

$$\int \frac{du}{\sqrt{u}} = \int u^{-\frac{1}{2}} du$$

$$\int u^{-\frac{1}{2}} du = \frac{1}{u^{\frac{1}{2}}} + C = 2\sqrt{u} + C$$

$$\frac{7^{2}}{\sqrt{1-4 \ln^{2} x}} = 2 \int \frac{dx}{x \sqrt{1-4 \ln^{2} x}}$$

Tomos que:
$$\sqrt{1-4 \ln^2 x} = \sqrt{4 \left(\frac{1}{4} - \ln^2 x \right)} = 2 \sqrt{\frac{1}{4} - \ln^2 x}$$

 $2 \sqrt{\frac{1}{4} - \ln^2 x} = 2 \sqrt{\left(\frac{1}{2}\right)^2 - \ln^2 x}$

$$\frac{\chi}{\int \frac{dx}{x \cdot \lambda} \sqrt{(\frac{1}{2})^2 \cdot \ln x}} = \frac{dx}{\int x \cdot \sqrt{(\frac{1}{2})^2 \cdot \ln^2 x}}$$

Subtituindo:
$$u = \ln x$$
 $\Rightarrow \int \frac{du}{\sqrt{\left(\frac{1}{2}\right)^2 - \ln^2}} = \frac{anc}{2} \frac{xen x + C}{\frac{1}{2}}$

