

$$\frac{2}{5} \cdot \frac{1}{1} = \frac{2}{5}$$

Atividade Avaliativa

Prova de Souza Damasceno

$$01) \int x \, dx = \frac{x^{1+1}}{1+1} + C = \frac{x^2}{2} + C$$

$$02) \int x^5 \, dx = \frac{x^{5+1}}{5+1} = \frac{x^6}{6} + C$$

$$03) \int \frac{1}{x^4} \, dx = \frac{1 \cdot x^{-4+1}}{-4+1} + C = \frac{x^{-3}}{-3} = \frac{1}{3 \cdot (x^3)} + C$$

$$04) \int \sqrt[5]{x^2} \, dx = \int (x)^{2/5} \, dx = \frac{x^{2/5+1}}{2/5+1} = \frac{x^{7/5}}{7/5}$$

$$\frac{5}{7} \cdot x^{7/5} + C = \frac{5}{7} \cdot \sqrt[5]{x^7} + C$$

$$05) \int 2x^2 \, dx = \int \frac{2x^{2+1}}{2+1} + C = \int \frac{2x^3}{3} + C = \frac{2x^3}{3} + C$$

$$06) \int (x+2) \cdot (x+4) \, dx = \int x^2 + 4x + 2x + 8 = \int x^2 + 6x + 8$$

$$\int \frac{x^{2+1}}{3} + \int \frac{6x^2}{2} + \int 8x$$

$$\frac{x^3}{3} + 3x^2 + 8x + C$$



$$07) \int e^x dx = \boxed{e^x + C}$$

$$08) \int \frac{1}{x} \cdot dx = \int 1 \cdot x^{-1} = \frac{1 \cdot x^{-1+1}}{-1+1} = \boxed{\int \ln|x| + C}$$

$$09) \int \tan(3x) \cdot dx =$$

$$\begin{array}{l} u = 3x \\ du = 3 \cdot dx \\ dx = \frac{du}{3} \end{array} \left| \int \tan 3x \cdot \frac{du}{3} = \frac{1}{3} \int \tan 3x \right.$$

$$\boxed{\int \frac{1}{3} \cdot \ln|\sec 3x| + C}$$

$$10) \int \sin(2x) dx =$$

$$\begin{array}{l} u = 2x \\ du = 2 \cdot dx \\ dx = \frac{du}{2} \end{array} \left| \boxed{\frac{-1}{2} \cdot \cos(2x) + C}$$