

EJERCICIO 142BE 2298:

$$\int \frac{3x^3 - 2x^2 + 7x}{5x - 2} dx =$$

$$\begin{array}{r} 3x^3 - 2x^2 + 7x \\ -3x^2 + \frac{6}{5}x^2 \\ \hline -\frac{4}{5}x^2 + 7x \\ +\frac{4}{5}x^2 - \frac{8}{25}x \\ \hline \frac{167}{25}x \\ -\frac{167}{25}x + \frac{334}{125} \\ \hline \frac{334}{125} \end{array} \quad \begin{array}{r} / 5x - 2 \\ \frac{3}{5}x^2 - \frac{4}{25}x + \frac{167}{125} \end{array}$$

$$= \int \left( \frac{3}{5}x^2 - \frac{4}{25}x + \frac{167}{125} + \frac{\frac{334}{125}}{5x-2} \right) dx =$$

$$= \frac{3}{5} \frac{x^3}{3} - \frac{4}{25} \frac{x^2}{2} + \frac{167}{125}x + \frac{334}{125 \cdot 5} \int \frac{5 dx}{5x-2} =$$

$$= \boxed{\frac{x^3}{5} - \frac{2}{25}x^2 + \frac{167x}{125} + \frac{334}{625} \ln |5x-2| + C}$$