

FICHA 2 - DERIVACIÓN

$$74 \rightarrow y = 2 \sqrt[5]{x^2} - \frac{4}{x^5} = 2 \cdot x^{2/5} - 4 \cdot x^{-5}$$

$$y' = \frac{4}{5} x^{-3/5} + 20 x^{-6} = \frac{4}{5 \sqrt[5]{x^3}} + \frac{20}{x^6}$$

$$75 \rightarrow y = 5x^3 - 3x^2 + 2x - 4$$

$$y' = 15x^2 - 6x + 2$$

$$76 \rightarrow y = 10x - 5x^2$$

$$y' = 10 + 10x^{-3}$$

$$77 \rightarrow y = 3x\sqrt{x} + 2 = 3x^{3/2} + 2$$

$$y' = \frac{9}{2} x^{1/2} = \frac{9}{2} \sqrt{x}$$

$$78 \rightarrow y = 3 - x^3$$

$$y' = -3x^2$$

$$79 \rightarrow y = \frac{5}{2} - \frac{3}{x} + \frac{1}{2x^2} = \frac{5}{2} - 3x^{-1} + \frac{1}{2}x^{-2}$$

$$y' = 3x^{-2} - x^{-3} = \frac{3}{x^2} - \frac{1}{x^3}$$

$$97 \rightarrow y = \frac{\operatorname{tg} x}{2} - \frac{\cos x}{3}$$

$$y' = \frac{1}{2} \cdot \frac{1}{\cos^2 x} - \frac{-\sin x}{3} = \frac{1}{\cos^2 x} + \frac{\sin x}{3}$$

$$98 \rightarrow y = 3(\sin x - \operatorname{tg} x)$$

$$y' = 3(\cos x - \frac{1}{\cos^2 x})$$

$$99 \rightarrow y = 2 \frac{\sin x - \cos x}{\cos x} = 2(\operatorname{tg} x - 1)$$

$$y' = 2 \cdot \frac{1}{\cos^2 x}$$

$$100 \rightarrow y = -3 \operatorname{tg} x$$

$$y' = \frac{-3}{\cos^2 x}$$

$$101 \rightarrow y = \frac{\sin x}{3}$$

$$y' = \frac{\cos x}{3}$$

$$113 \rightarrow y = -5 \ln \sqrt{x^3} = -5 \ln x^{3/2} = -\frac{15}{2} \ln x$$

$$y' = -\frac{15}{2} \cdot \frac{1}{x} = -\frac{15}{2x}$$

$$114 \rightarrow y = 2 \ln \sqrt{x} - \ln x^2 = 2 \ln x^{1/2} - 2 \ln x = 2 \cdot \frac{1}{2} \ln x - 2 \ln x = -\ln x$$

$$y' = -\frac{1}{x}$$

$$115 \rightarrow y = \ln 5x = \ln 5 + \ln x$$

$$116 \rightarrow \boxed{y = 3 \ln 2x^2 = 3(\ln 2 + 2 \ln x)}$$

$$y' = 3 \cdot \left(0 + \frac{2}{x}\right) = \frac{6}{x}$$

$$117 \rightarrow \boxed{y = \log_3 x = \frac{\ln x}{\ln 3}}$$

$$y' = \frac{1}{\ln 3} \cdot \frac{1}{x} = \frac{1}{x \ln 3}$$

$$118 \rightarrow \boxed{y = \log_2 x}$$

$$y' = \frac{1}{x \ln 2}$$

$$119 \rightarrow \boxed{y = \log x}$$

$$y' = \frac{1}{x \ln 10}$$

$$120 \rightarrow \boxed{y = \log_5 x}$$

$$y' = \frac{1}{x \ln 5}$$

$$121 \rightarrow \boxed{y = \log_2 3x = \log_2 3 + \log_2 x}$$

$$y' = \frac{1}{x \ln 2}$$