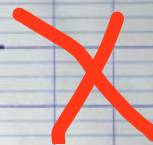


$$f'(x) = \frac{1(x^2+8) - 2x(x)}{(x^2+8)^2}$$

$$f'(x) = \frac{x^2+8 - 2x^2}{x^4-64}$$

$$f'(x) = \frac{8-x^2}{x^4-64}$$



Il aurait suffi que tu laisses le denominateur sous sa forme non-developpee, car le developpement que tu as fait n'est pas conforme

$$6- f(x) = \frac{x+5}{x-1}$$

$$u' = 1 \quad v' = 1$$

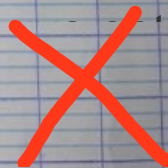
Ici, n'oublies pas que le facteur

$$f'(x) = \frac{1(x-1) - 1(x+5)}{(x-1)^2}$$

-1 du second membre du numerateur doit etre distribuee a tout ce qui se

$$f'(x) = \frac{x-1-x+5}{x^2+1}$$

$$f'(x) = \frac{4}{x^2+1}$$





$$f(x) = e^{3x} (3)$$

$$f'(x) = 3e^{3x}$$

$$18- f(x) = \frac{3e^x - 4}{e^x + 1}$$

$$u'v - v'u$$

$$f'(x) = \frac{3e^x(e^x + 1) - e^x(3e^x - 4)}{(e^x + 1)^2}$$

$$f'(x) = \frac{3e^{2x} + 3e^x - 3e^{2x} + 4e^x}{(e^x + 1)^2}$$

$$f'(x) = \frac{-1e^x}{(e^x + 1)^2}$$

$$\frac{3e^x}{(e^x + 1)^2}$$

$$19- f(x) = \frac{e^{-2x+1}}{e^{-2x+1}}$$

$$f'(x) = \frac{-2e^{-2x+1}(e^{-2x+1}) - 2e^{-2x+1}(e^{-2x+1})}{(e^{-2x+1})^2}$$

$$f'(x) = \frac{-2e^{-4x+2} - 2e^{-4x+2}}{(e^{-2x+1})^2}$$

$$f'(x) = \frac{-4e^{-4x+2}}{(e^{-2x+1})^2}$$

$$20- f(x) = xe^{5x}$$

$$u'v + v'u$$

$$f'(x) = 1(e^{5x}) + 5e^{5x}(x)$$

$$f'(x) = e^{5x} + 5xe^{5x}$$

$$f'(x) = 2e^{5x} + 5x$$



$$21) f(x) = (3x-2)^2$$

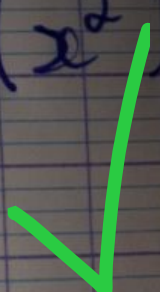
$$f'(x) = 9x^2 - 12x + 4$$

$$f'(x) = 9(2x) - 12$$

$$f'(x) = 18x - 12$$

$$22) f(x) = x^2 \sqrt{x}$$

$$f'(x) = 2x \sqrt{x} + \frac{1}{2\sqrt{x}} (x^2)$$

$$f'(x) = 2x \sqrt{x} + \frac{x^2}{2\sqrt{x}}$$




Vendredi

10

Vendredi

6

Octobre 2020

Calculons les dérivées des fonctions suivantes:

1)  $f(x) = 2x^2 + 3x$

$$f'(x) = 2(2x) + 3$$

$$f'(x) = 4x + 3$$

$$u + v \Rightarrow u' + v'$$

2)  $f(x) = -3\sqrt{x}$

$$f'(x) = -3 \left( \frac{1}{2\sqrt{x}} \right)$$

$$f(x) = \sqrt{x} \Rightarrow f'(x) = \frac{1}{2\sqrt{x}}$$

La dérivée de la fonction radicale

~~3)~~  $f'(x) = \frac{-3}{2\sqrt{x}}$

3)  $f(x) = x\sqrt{x}$

$$f'(x) = x \left( \frac{1}{2\sqrt{x}} \right)$$

Ici, tu as une forme U fois V

$$f'(x) = \frac{x}{2\sqrt{x}}$$

4)  $f(x) = (2x-1)(3x+2)$

$$f(x) = 6x^2 + x - 2$$

$$f'(x) = 6(2x) + 1$$

$$f'(x) = 12x + 1$$

5)  $f(x) = \frac{x}{x^2 + 8} \rightarrow \begin{matrix} u \\ v \end{matrix} \Rightarrow \frac{u'v - v'u}{v^2}$

$$u' = 1 \quad v' = 2x$$



$$8) \quad f(x) = 2x^5 - 3x^3$$

$$f'(x) = 2(5x^4) - 3(3x^2)$$

$$f'(x) = 10x^4 - 9x^2$$

$$f'(x) = 0$$

$$14 - f(x)$$

$$9) \quad f(x) = \sin(x^2)$$

$$f'(x) = \cos(x^2) \cdot 2x$$

$$10) \quad f(x) = 4 \sin(x) + \cos(2x)$$

$$f'(x) = 4 \cos(x) - \sin(2x) \cdot 2$$