

$$(16) \sqrt{2x^3} \sec 2x$$

$$y' = (\sec 2x \cdot 2x^3 \cot 2x + 6x)$$

$$(17) \frac{2x^3 \sqrt{\cos x^2}}{2x^3 \cos x^2}$$

$$6x \sec 2x^3 \cdot 6x = y' = \sqrt{12x^2 \sec 2x^3}$$

$$(18) u \sec 2x^u$$

$$u = u$$

$$u \sec 2x^u$$

$$u \sec 2x^u = u x (\cot 2x^u + 0)$$

$$(19) (\cos 2x^3)^3$$

$$((6x \sec 2x^3) \cos 2x^3)^3$$

$$(20) \frac{1}{(\sec x^2)^2}$$

$$u = 1 \quad du = 0$$

$$v = 2(\sec x^2)^2 = 2 \sec x^2$$

$$y' = 0 \cdot ((\sec x^2)^2 - \sec x^2)^2$$

$$(\sec x^2)^4$$

3.- $Y = 11 - 2X^2 - 6X^3$

4.- $Y = X / (X^2 - 8X)$

5.- $Y = 5 / (3X - 4)$

6.- $Y = (3X + 2) / (2X - 1)$

7.- $Y = (3X^2 + 1) / (2X)$

8.- $Y = 5 / (4 + X^2)$

9.- $Y = (1 + 2X)^2$

10.- $Y = 3/5 X^2 - 3/4 X + 1/8$

11.- $2X^2 / \tan X^2$

12.- $3X^2 \cos 3X^2$

13.- $\text{SEN } X^2 \cos X^2$

14.- $\text{COT } 3X^3$

15.- $\sqrt{2X^3} \cos X^2$

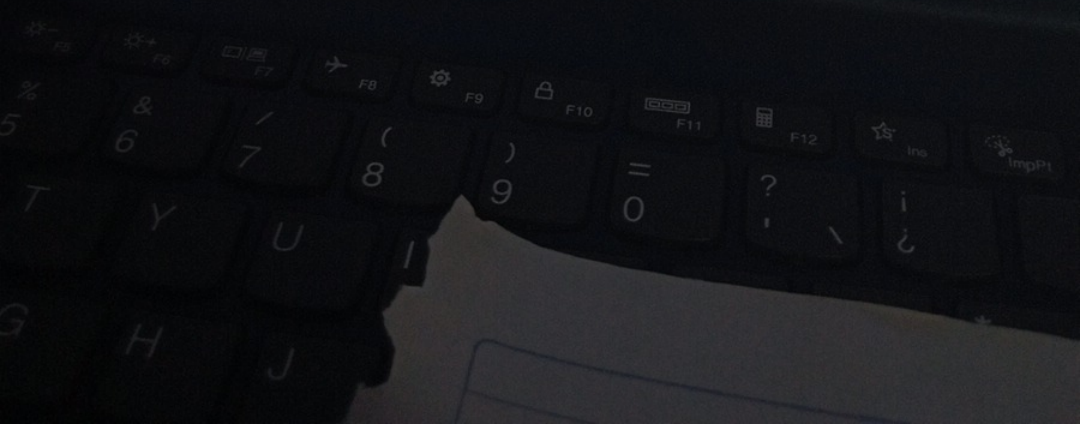
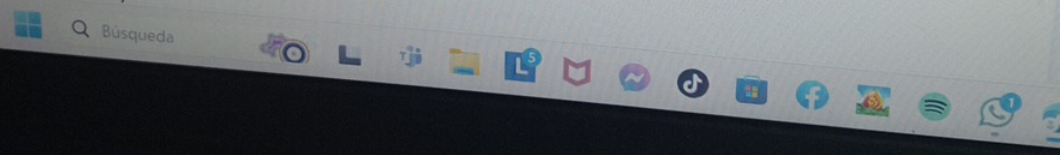
16.- $\sqrt{2X^3} \sec 2X$

17.- $2X^3 \sqrt{5X^3}$

18.- $4 \sec 2X^4$

19.- $(\cos 2X^3)^3$

20.- $1 / (\text{SEN } X^2)^2$



$$(12) 3x^2 \cos 3x^2$$

$$u = 3x^2$$

$$v = \cos 3x^2$$

sen u o du

$$\text{sen } 3x^2 \cdot 6x$$

$$y' = \text{sen } 18x^3$$

$$(13) \text{sen } x^2 \cos x^2$$

$$u = \text{sen } x^2$$

$$v = \cos x^2$$

$$\frac{du}{dx} = 2x \cos x^2$$

$$\frac{dv}{dx} = -2x \text{sen } x^2$$

$$y' = (\text{sen } x^2)(2x \cos x^2)$$

$$(14) \cot 3x^3$$

$$u = \cot 3x^3$$

$$v = 3x^3$$

$$y' = (\text{csc}^2 3x^3)(9x^2 \cot 3x^3)$$

$$(15) \sqrt{2x \cos x^2}$$

$$y' = (2x \cos x^2)^{1/2}$$

$$\frac{2(\text{sen } 2x)(2x)}{2}$$

$$y' = 2 \text{sen } 4x^2$$

$$\textcircled{8} \quad y = \frac{5}{(4+x^2)}$$

$$y' = \frac{(4+x^2)(0) - (5)(2x)}{(4+x^2)^2} \quad y' = \frac{-10}{(4+x^2)^2}$$

$$v = 5 \quad dv = 0$$

$$v = 4+x^2 \quad dv = 2x$$

$$\textcircled{9} \quad y = (1+2x)^2$$

$$x = 1+2x \quad z = 1$$

$$u = 2 \quad (1)(1+2x)$$

$$u = 1 = 1$$

$$y' = 1+2x$$

$$\textcircled{10} \quad \frac{3}{5}x^2 - \frac{3}{4}x + \frac{1}{8}$$

$$v = \frac{3}{5}x^2 \quad dv = \frac{6}{10}x$$

$$v = -\frac{3}{4}x \quad dv = -\frac{3}{4}$$

$$w = +\frac{1}{8} \quad dw = 0$$

$$6/10x - 3/4 + 0$$

$$y' = 6/10x - 3/4$$

$$\textcircled{11} \quad y = \frac{2x^2}{\tan x^2}$$

$$u = 2x^2$$

$$du = 4x$$

$$v = \tan x^2$$

$$dv = 2x \tan x^2$$

$$y' = \frac{4x(\tan x^2 - 4x^2 \sec^2 x^2)}{(\tan x^2)^2}$$

$$\textcircled{8} \quad y = \frac{5}{(4+x^2)}$$

$$y' = \frac{(4+x^2)(0) - (5)(2x)}{(4+x^2)^2} \quad y' = \frac{-10x}{(4+x^2)^2}$$

$$u = 5 \quad du = 0$$

$$v = 4+x^2 \quad dv = 2x$$

$$\textcircled{9} \quad y = (1+2x)^2$$

$$x = 1+2x$$

$$2-1$$

$$u = 2$$

$$(1)(1+2x)$$

$$u' = 1 = 1$$

$$y' = 1+2x$$

$\textcircled{10}$

$$\frac{3}{5}x^2 - \frac{3}{4}x + \frac{1}{8}$$

$$u = \frac{3}{5}x^2 \quad du = \frac{6}{5}x$$

$$\frac{6}{10}x - \frac{3}{4} + 0$$

$$v = -\frac{3}{4}x \quad dv = -\frac{3}{4}$$

$$w = +\frac{1}{8} \quad dw = 0$$

$$y' = \frac{6}{10}x - \frac{3}{4}$$

$\textcircled{11}$

$$y = \frac{2x^2}{\tan x^2}$$

$$u = 2x^2$$

$$du = 4x$$

$$v = \tan x^2$$

$$dv = 2x \tan x^2$$

$$y' = \frac{4x(\tan x^2 - 4x^2 \sec^2 x^2)}{(\tan x^2)^2}$$

$$5) y = 5 / (3x - 4)$$

$$u = 5 \quad du = 0$$

$$v = (3x - 4) \quad dv = 3$$

$$y' = \frac{(5)(3) - (3x - 4)(0)}{(3x - 4)^2}$$

$$y' = 15 - 0$$

$$y' = \frac{15}{(3x - 4)^2}$$

$$6) y = (3x + 2) / (2x - 1)$$

$$u = 3x + 2 \quad \frac{du}{dx} = 3 \quad y' = \frac{1}{(2x - 1)^2}$$
$$v = 2x - 1 \quad \frac{dv}{dx} = 2$$

$$y = (3x^2 + 1) / (2x)$$

$$u = (3x^2 + 1) \quad \frac{du}{dx} = 6x$$
$$v = (2x) \quad \frac{dv}{dx} = 2$$

$$y' = \frac{(2x)(6x) - (3x^2 + 1)(2)}{(2x)^2}$$

$$y' = \frac{12x^2 - 6x^2 - 2}{(2x)^2} = \frac{y' = \frac{6x^2 - 2}{(2x)^2}}$$

$$y = 2x^3 - 6x^2 + 7x + 11$$

$$y' = 6x - 12x + 7$$

$$u + v - w$$

$$y' = 6x + 7$$

$$u = 2x^3$$

$$du = 6x^2$$

$$v = -6x^2$$

$$dv = -12x$$

$$w = 7x$$

$$dw = 7$$

$$y = \frac{1}{4}x^3 + \frac{7}{3}x^2$$

$$u = \frac{1}{4}x^3 \quad \frac{7}{3}x^2$$

$$du = \frac{3}{4}x^2 \quad \frac{14}{3}x$$

$$y' = \frac{3}{4}x^2 + \frac{14}{3}x = y' = \frac{9x^2 + 16x}{12}$$

$$y = 11 - 2x^2 - 6x^3$$

$$u = 11 \quad du = 0$$

$$v = -2x^2 \quad dv = -4x$$

$$w = -6x^3 \quad dw = -18x^2$$

$$y' = 4x + 18x^2 = y' = 18x^2 + 4x$$

$$y = \frac{x}{(x^2 - 8x)^2}$$

$$u = x$$

$$du = 1$$

$$v = x^2 - 8x$$

$$dv = 2x - 8$$

$$\frac{(x^2 - 8x)(1) - (x)(2x - 8)}{(x^2 - 8x)^2}$$

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