
UDS
Mi Universidad

① $y = 2x^3 - 6x^2 - 7x$

$y = 6x^2 - 12x - 7$

② $y' \frac{11}{4x^3} \quad \frac{+7}{3x^2} \quad \frac{v\,du - u\,dv}{x^2}$

$\frac{11}{4} x^3 - 1 = \frac{33}{4} x^2$

$\frac{7}{3} \cdot x^2 = \frac{44}{33} x$

③ $y = 11 - 2x^2 - 6x^3$

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

④ $y = \frac{x}{x^2 - 8x} \quad \frac{v\,du - u\,dv}{v^2}$

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

⑤ $y = \frac{5}{3x - 4} \quad \frac{du \cdot v - du \cdot v}{v^2}$

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

$y = \frac{+5}{3x - 4}$

⑥ $y = \frac{3x+2}{2x-1}$ $\frac{du \cdot v - dv \cdot u}{v^2}$ $u = 3x+2$ $v = 2x$
$du = 3$ $dv = 2$

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

$y = \frac{6x+4-6x-3}{(2x-1)^2}$

7 - $\frac{3x^2+1}{2x}$ $\frac{v du - u dv}{v^2}$

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

$y = \frac{12x^2 - 6x^2 + 2}{4x^2}$

$\frac{6x^2+2}{4x^2} = \frac{6x^2}{4x^2} + \frac{2}{4x^2}$

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

(8) $\frac{5}{4+x^2}$ ~~$\frac{dv \cdot u - du v}{v^2}$~~

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

$u = 5 \quad v = 4+x^2$

$du = 0 \quad dv = 2x$

$y' = \frac{20+5^2}{(4+x^2)^2}$

(9) $y = (1+2x)^2 \quad n = 2 \quad v = 1+2x$

$n-1 = 1 \quad dv = 2$

$y' = 2+4x \cdot 2$

$y = 4+8x$

$y = \frac{3}{5x^2} = \frac{3}{4x} + \frac{1}{5}$

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

$\frac{3}{4}x = \frac{3}{4} \qquad R = \frac{6}{5} - \frac{3}{4}$

$\frac{1}{5} \Rightarrow 0$

$\frac{2x^2}{\tan x^2}$ $\quad u = 2x^2 \quad v = \tan x^2$

$du = 4x \quad dv = 2x \sec^2 x^2$

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

$3x^2 \cos 3x^2$ $\quad \frac{vu - 2du - vdv - u}{v^2}$

$u = 3x^2 \quad du = 6x$

$v = \cos 3x^2 \quad dv = -\operatorname{sen} 6x$

$$y = \frac{6x \cos 3x^2 - \operatorname{sen} 6x \; 3x^2}{(\cos 3x^2)^2}$$

$\operatorname{sen} x^2 \cos x^2$ $\quad \frac{uv = dv\,v + dv\,u}{v^2}$

$u = \operatorname{sen} x^2 \quad v = \cos x^2$

$dv = 2x \cos x^2 \quad dv = -2x \operatorname{sen} x^2$

$y = -2x(\operatorname{sen} x^2)^2 + 2x(\cos x^2)^2$