16 $\sqrt{2x^3 \sec x^2}$ $\quad un = n u^{n-1} \cdot \frac{du}{dx}$

$y = (2x^3 \sec x^2)^{\frac{1}{2}}$

$y = \frac{1}{2}(2x^3 \sec x^2)^{-\frac{1}{2}} \cdot 4 \sec x^2 \tan x^2$

$y' = \frac{4x^4 \sec x^2 \tan x^2 + 6x^2 \sec x^2}{\sqrt{2x^3 \sec^2 x}}$

17 $2x^3\sqrt{5x^3}$

$u = 2x^3$ $\quad vdu + udv$

$du = 6x^2$

$v = \sqrt{5x^3} = (5x^3)^{\frac{1}{2}}$

$du = \frac{1}{2}(5x^3)^{-\frac{1}{2}} \cdot 15x^3$

$du = \frac{15x^2}{2} \cdot (5x^3)^{-\frac{1}{2}} = \frac{15x^2}{2\sqrt{5x^3}}$

$y' = 30x^3 + \sqrt{5x^3} \cdot 6x^2$

$y' = \frac{15x^5}{\sqrt{5x^3}} + 6x^2\sqrt{5x^3}$

13 : $\underbrace{\text{Sen } v^2}\ \underbrace{\text{Cos } x^2}$

$v = \text{Sen } x^2$
$dv = 2x \cos x^2$
$u = \cos x^2$
$du = -2x \text{Sen } x^2$

$\text{Sen } x^2 (2 - \text{Sen } x^2) + \cos x^2 + (2x \cos x^2)$
$2x(\text{Sen } x^2)^2 + (x (\cos x^2)^2$
$y' = 2x (\text{Sen } x^2)^2 + (\cos x^2)^2$

14 : $\text{Cot } 3x^2 - (\text{Sec}^2 v \cdot \frac{d}{dx}(v)$

$\frac{d}{c} v = 9x^2$
$y' = v^2 \text{Sec}^2 (3x)^3$

15 : $\sqrt{2x^3 \cos x^2}$
$U_n = nu^{n-1} \cdot \frac{du}{dx}$

$v = 2x^3$
$dv = 6x^2$
$v = \cos x^2$
$dv = 2x \text{Sen } x^2$

$y' = 3x^2 (\cos x^2)^{4^2}$
$y' = \frac{1}{2} (2x^3 \cos x^2)^{-1/2}$

$(2x^3)(\cos x^2 \text{ Sen } x^2)$

$6x^2 \cos x^2$
$4x4 \cos x^2 \text{Sen } x^2 + 6x^2 \cos x^2$
$4x4 \cos x^2 \text{Sen } x^2 + 6x^2$
$y = \frac{1}{2} (2x^3 \cos x^2)^{-1/2} \cdot 4x4 \cos x^2 \text{Sen}^2 + 6x^2$

$y' = \frac{4x4 (\cos x^2 \text{Sen } x^2 + 6x^2 \cos x^2}{2\sqrt{2x^3 \cos x^2}}$

9 ÷ $Y = (1+2x)^2$ $\quad nudv$

$n = 2$ $\qquad y' = 2(1+2x)\cdot(2)$

$n-1 = 1$ $\qquad \underline{y' = 4(1+2x)}$

$V = 1+2x$

$dv = 2$

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

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

$\frac{6}{5} - \frac{3}{4}$

11 ÷ $\frac{2x^2 u}{\tan x^2 u}$ $\qquad \frac{vdu - udv}{v^2}$

$V = 2x^2$

$dv = 4x$

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

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

12 ÷ $3x^2 \cos 3x^2$

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

$dv = 6x$ $\qquad dv = 6x \operatorname{sen} 3x^2$

$-18x^3 \, SEN\, 3x^2 + 6x \cos 3x^2$

$y' = 6x(-3x^2 \operatorname{sen} 3x^2 + \cos 3x^2$

5: $\frac{5}{(3x-4)v}$ $\quad \frac{v\,dv - v\,dv}{v^2}$

$v = 5$ $\quad 3x - 4 \cdot 0 - 5(3)$

$dv = 0$ $\quad \frac{-15}{3x-4^2}$

$v = 3x - 4$

$dv = 3$

6 $y = \frac{3x+2v}{2x-1v}$ $\quad \frac{v\,dv - v\,dv}{v^2}$

$v = 3x + 2$ $\quad \frac{2x-1(3x) - 3x+2(2)}{2x-1}$

$dv = 3$

$v = 2x - 1$

$dv = 2x$ $\quad \frac{6x-3-6x+4}{2x-1} = \frac{7}{2x-1^2}$

7 $y = \frac{3x^2 + 10}{2x\,v}$

$v = 3x^2$ $\quad (2)\cdot(6x)\cdot 3x^2(2)$

$dv = 10x$

$v = 2x$ $\quad \frac{12x^2 - 6x^2}{2x^2}$ //

$dv = 2$

8: $\frac{5v}{4+x^2 v}$ $\quad \frac{v\,dv - v\,dv}{v^2}$

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

$dv = 0$

$v = 4 + x^2$

$dv = 2x$

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

$2(3x)^3 - 6(2x)^2 - 7(1)$

$6x^2 - 12x - 7$ → $\emptyset$

2 $y = \frac{11}{4x^3} + \frac{7}{3x^2}$

$y = 11x^{-3} + \frac{7x^2}{3}$

$y = \frac{33}{4}x^2 + \frac{14}{3}x$

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

$2(2x) - 6(3x)^3$

$4x - 18x^2$

4 $y = \frac{x \quad u}{(x^2 - 8x)}$

$u = x \qquad v = x^2 - 8x$

$u' = 1 \qquad v' = 2x - 8x$

$y = (x^2 - 8x) \cdot (1) - x(2x - 8x)$

$y = x^2 - 8x - 2x^2 - 8x^2$

18 $-4 \sec 2x^4$ $\frac{d}{dx}(\sec u) = \sec u \cdot \tan u \cdot u$

$u = 2x^4$

$du = 8x^3$ $-\sqrt{4}(\sec(2x^4)) \cdot \tan 2x^4 \cdot (8x^3)$

$-32x^3 \sec 2x^4 \cdot \tan 2x^4$