WHICH LAW OF DIFFERENTIATION IS USED TO IMPRISON FUNCTIONS?

Derivatives of Composite Functions

If $y = f(g(x))$

then $y' = f'(g(x))g'(x)$

$y = 3\cos(2x^5)$

$y' = -3\sin(2x^5)\cdot(10x^4)$

$y' = -30x^4\sin(2x^5)$

Find the derivative y' of each function.

1) $y = (3x^2 + 1)^4$	2) $y = 3e^{2x^2}$	3) $y = \sin(2x^3)$	4) $y = 2\tan(x^5)$
5) $y = \sqrt{3x^2 + 1}$	6) $y = \frac{-1}{3x^2+1}$	7) $y = \ln(3x^2 + 1)$	8) $y = \cos\sqrt{x}$
9) $y = e^{1/x}$	10) $y = 3\sin^2(x)$	11) $y = \tan^5(2x)$	12) $y = 5 - 3\cos^2(x)$

Derivatives.

A. $y' = \frac{6x}{(3x^2+1)^2}$	B. $y' = 6x\sqrt{3x^2 + 1}$	C. $y' = \frac{3x}{\sqrt{3x^2+1}}$	E. $y' = 24x(3x^2 + 1)^3$
E. $y' = 12xe^{2x^2}$	H. $y' = 6\sin(x)\cos(x)$	I. $y' = 6x^2\cos(2x^3)$	L. $y' = \frac{6x}{3x^2+1}$
M. $y' = \frac{1}{2\sqrt{x}}\cos\sqrt{x}$	N. $y' = -\frac{1}{x^2}e^{1/x}$	P. $y' = 2\sec^2(x^5)$	R. $y' = -\frac{1}{2\sqrt{x}}\sin\sqrt{x}$
S. $y' = 10\tan(2x)\sec(2x)$	T. $y' = 10x^4\sec^2(x^5)$	U. $y' = 10\sec^2(2x)\tan^4(2x)$	

4	10	1

5	12	6	3	9

8	11	7	2