

Advanced Derivative Rules

4.3 – Differentiating Using Two Rules

Ex A: Find the derivative of each function. Factor answers when appropriate.

#1) $h(x) = (3x + 2)^4(5x - 7)^3$

#2) $y = \left(\frac{x^2}{x-1}\right)^5$

#3) $g(x) = [x^2 - (x^3 - 6)^4]^8$

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$$\#4) h(x) = (x + 1)^{10}(x - 1)^8$$

$$\#5) y = \left(\frac{x+1}{5x^6}\right)^6$$

$$\#6) g(x) = [5x^3 + (x^3 + 5)^8]^7$$

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#7) If $y = \tan^5(2x)$ find y' .

#8) If $y = -4\cot^3(7x)$ find y' .

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#9) If $y = \sec(\cos(4x))$ find y' .

Eraser much?

#10) If $y = \sin^2(x) + \sin(x) + \cos^2(x)$ find y' .