

9.5 pg. 596 4.11.22

4. $y = (3x^7 + 4)(8x^6 - 6x^4 - 9)$

$$\frac{d}{dx} (3x^7 + 4)(8x^6 - 6x^4 - 9) + \frac{d}{dx} (8x^6 - 6x^4 - 9)(3x^7 + 4)$$

$$(3x^7 + 4) = 21x^6$$

$$(8x^6 - 6x^4 - 9) = 24x^3(2x^2 - 1)$$

$$21x^6(8x^6 - 6x^4 - 9) + 24x^3(2x^2 - 1)(3x^7 + 4)$$

$$3x^3(x^2(104x^7 - 66x^5 - 63x + 64) - 32)$$

11. $\frac{dp}{dq}$ for $p = \frac{q^2 + 3}{2q - 1}$

$$(q^2 + 3) \frac{d}{dq} (p(q))$$

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$$\frac{1}{2} - \frac{13}{2(1-2q)^2}$$

22. $y = \frac{x^2 - 4x}{x^2 + 2x}$ at $(2, -1/2)$

a. $\frac{6}{(x+2)^2}$

b. $\frac{6}{(x+2)^2}$