Chain Rule

Find $\frac{dy}{dx}$.

(1) $y = e^{4x^2+3}$

(2) $y = \sin(3x^2 - 4x)$

(3) $y = \ln(x^3 - 5x^2 + 4)$

(4) $y = (7x^3 - 6x)^{10}$

(5) $y = 8e^{-4x+8}$

(6) $y = 7\sin(2x-1)$

(7) $y = 4\ln(-6x^2 + 4x)$

(8) $y = 3\cos(5x^2 - 7x) + 4e^{2x-5}$

(9) $y = 6e^{5x^2-3x+1} + 8\ln(5x^2 - 3x + 1)$

(10) $y = 5\sin(-8x+3) - 6\cos(-x)$

(11) $y = 9\ln(5x-1) + 4(x^2-1)^5$

(12) $y = 12(5x-3)^{-2} + \sqrt{3x^2+1}$

(13) $y = 8\,\mathrm{Sin}(4x^2 - 6x + 10) - 6\sqrt{4x^2 - 1}$

(14) $y = e^{(4x^2 + 5x)} - 6\,\mathrm{Cos}(3x^2 - 8x + 1)$

(15) $y = 6e^{-7x^3 + 8x} + 8\,\mathrm{Sin}(5x - 1)$

(16) $y = 3\ln(-6x + 8x^2) - 5e^{2x^2 + 5} + (2x^2 + 1)^{10}$

(17) $y = 2(x^3 - 5x)^{10} - 8\sqrt{3x^2 + 2x} + 6e^{-8x}$

(18) $y = 5\,\mathrm{Sin}(-3x) + 8\ln(4x) - 6e^{-9x}$

(19) $y = 7\sqrt{6x - 1} + \dfrac{8}{(x^2 - 1)^3} - 4e^{-6x + 1}$

(20) $y = \dfrac{5}{(7 - 3x)^4} - 3\,\mathrm{Sin}(4 - 2x)$