

Part I: Find dy/dx :

(1) $y = -x^2 + 3$	(2) $y = \frac{x^3}{3} - x$	(3) $y = 1 - x - x^2 - x^3$	(4) $y = \frac{x^3}{3} + \frac{x^2}{2} + x$
(5) $y = (2x+1)(x^5 - 5x^3)$	(6) $y = \frac{x^5 + 2x^3 + 1}{4}$	(7) $y = \frac{x^4 - 2x^3 + x - 15}{x}$	(8) $y = \frac{5x^2 + x}{4x}$

Part II: Find $f'(x)$

(9) $f(x) = \sqrt{x} + x^3 + 1$

(10) $f(x) = (1 + \sqrt{x})(2 - x)$

(11) $f(x) = (x+1)^3$

(12) $f(x) = 7x^{-3} + x^2 + 5$

Part III: Find $\frac{d^2y}{dx^2}$:

(a) $y = 4x^7 - 5x^3 + 2x$

(b) $y = 3x + 2$

(c) $y = \frac{3x-2}{5x}$

(d) $y = (x^3 - 5)(2x + 3)$