201-103-RE - Supplement C: Horizontal Tangent

For each problem below, find the x-value(s), if any, at which the graph of f has a horizontal tangent.

(1) $f(x) = (x^2 + 2)^4(2x + 2)^2$

(2) $f(x) = \dfrac{(3x - 4)^2}{(x + 1)^3}$

(3) $f(x) = (7x + 1)^3 \cdot \sqrt{2x + 4}$

(4) $f(x) = (x^2 - 9)^9(1 - x^2)^3$

(5) $f(x) = \dfrac{(9x - 6)^3}{\sqrt[3]{x + 1}}$

ANSWERS:

(1) $x = -1$

(2) $x = 6, \quad x = 4/3$

(3) $x = -85/49, \quad x = -1/7$

(4) $x = 0, \quad x = -3, \quad x = 3, \quad x = -1, \quad x = 1, \quad x = -\sqrt{3}, \quad x = \sqrt{3}$

(5) $x = -2/3, \quad x = -25/24$