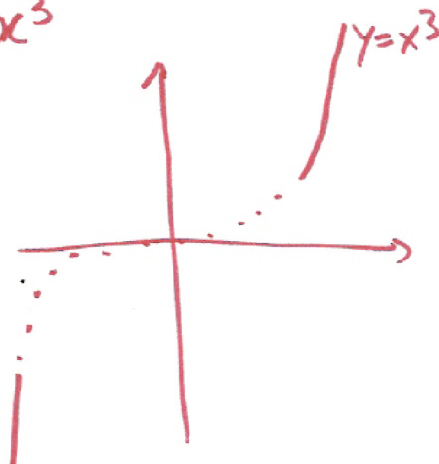


Problem 7: Let $P(x) = (x + 2)(x - 2)(x + 3)$.

(a) What is the leading term?

$$x \sim \infty, P(x) \sim x^3$$



(b) What are the x -intercepts and what is the linear behavior of P near them?

$$x\text{-intercepts: } -3, -2, 2$$

$$x \sim -3, P(x) \sim 5(x+3) = 5x+15$$

$$x \sim -2, P(x) \sim -4(x+2) = -4x-8$$

$$x \sim 2, P(x) \sim 20(x-2) = 20x-40$$

(c) Sketch the graph of $y = P(x)$.

$$y\text{-intercept: } -12$$

