Name: _____ Date:_____ Pd:_____

For #'s 1 – 3, use the following equation: $f(x) = x^2 + x - 1$

1. Use the definition of the derivative to find the derivative of $f(x)$.

2. Use answer in # 1 to find the slope of $f(x)$ at (2, 5)?

3. What is the equation of the tangent line at (2, 5) in slope-intercept form?

For # 4, use the following equation: $f(x) = \sqrt{x}$

4. Use the alternative form of the derivative to find the slope of f at x = 9.

5. Sketch the graph of f' given the following graph of f:
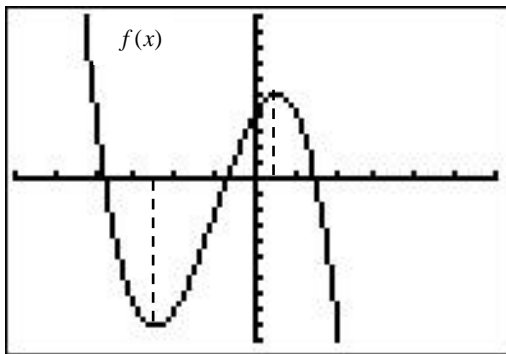
6a) Find $f'(x)$ Given : $f(x) = 3\sqrt{x} + \dfrac{3}{\sqrt[3]{x}} + \dfrac{1}{2x^4}$

b) What is the equation of the tangent line for the above function at x=1?