

Pencils and Erasers Only – No Calculators Needed.

- 1 For each of the following functions, write down the derivative using the section-3-5 short-cuts.

(a) $f(x) = 5280 + 3x - 4x^5$

(b) $f(x) = \sqrt{x} - \sqrt[3]{x}$

(c) $f(x) = \frac{3x - 5}{x^3}$

2 Let $f(x) = 4x^3 + 3x^2 - 36x + 7$.

(a) Find an equation for the tangent line to the graph of f at its y -intercept.

(b) Determine the x -coordinates of all the points at which the graph of f has a horizontal tangent line.