Math 141 Quiz 2 Name _____

1.) Calculate the derivative of the following function. $f(x) = \frac{5}{x^3} + \sqrt[3]{x}$.

(7 pts.)

2.) Find the points (a point has both an *x* and a *y* coordinate: (*x*, *y*))on $g(x) = 5x^3 + 2x^2 - 3x + 1$ where the slope *m* of the tangent line is 18.

(10 pts.)

3.) The size of a certain bacteria culture N(*t*) is given by the equation: $N(t) = 3000 + 2t + 5t^{5/4}$ where *t* is measured in hours. How fast is the culture growing when *t* = 6 hours?

(8 pts.)