

Algebra 201-007-50 C2

Quiz 7

October 15, 2008

Name: SOLUTIONS
Student ID: _____

1. (6 marks). Use long division to divide the following and write what it equals:

$$\frac{9x^3 + 8x - 2}{3x + 1}$$

$$\begin{array}{r} 3x^2 - x + 3 \\ 3x+1 \overline{) 9x^3 + 0x^2 + 8x - 2} \\ \underline{3x^2(3x+1) \rightarrow -(9x^3 + 3x^2)} \downarrow \\ -x^2 + 8x \\ \underline{-x(3x+1) \rightarrow -(-3x^2 - x)} \downarrow \\ 9x - 2 \\ \underline{3(3x+1) \rightarrow -(9x + 3)} \\ -5 \end{array}$$

$$\frac{9x^3 + 8x - 2}{3x + 1} = 3x^2 - x + 3 - \frac{5}{3x + 1}$$