MATH 133 – Calculus with Fundamentals 1
Quiz 4 – October 6, 2017

Your Name: _____

Directions

Do all work on this sheet. There are 30 possible points.

1) If the Limit Laws apply, use them to evaluate these limits. Show all steps and explain which laws you are using. If the Laws do not apply, explain why.

   (a) (7.5) $\lim_{x \to 3} 4x^2 + 3x + 1$

   (b) (7.5) $\lim_{x \to 1} \dfrac{x^2 + 3x - 4}{2x^2 - 7x + 5}$

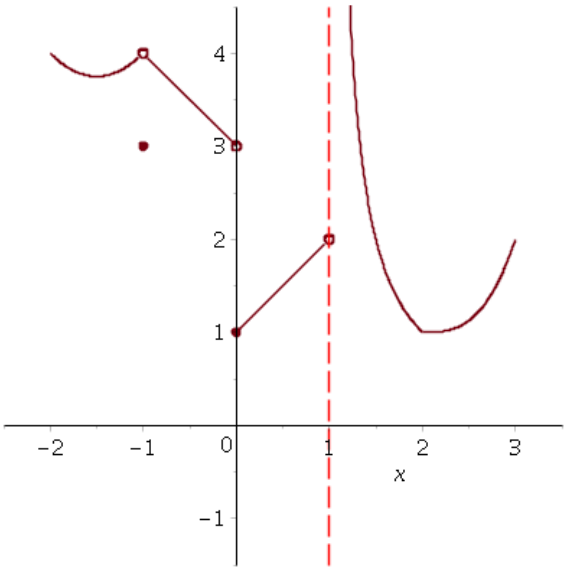

Figure 1: The Graph $y = f(x)$ for question 2.

2) By examining the graph answer these questions.

(a) (5) Is $f(x)$ continuous at $x = -1$? _____ (Y/N) Why or why not?

(b) (5) Is $f(x)$ continuous at $x = 2$? _____ (Y/N) Why or why not?

3) (5) Is the function $g(x) = \begin{cases} x^2 + 3x & \text{if } x < 3 \\ 21 - x & \text{if } x \geq 3 \end{cases}$ continuous at $x = 3$? _____ (Y/N)

Explain: