NAME: _____ **Panther ID:** _____

Quiz 1 MAC-2311 Fall 2016

1. (10 pts) Compute each limit. If the limit does not exist or is infinite specify so (2.5 pts each).

(*a*) $\lim_{x\to -1} \dfrac{x^2-2x-3}{3x^2-x^3}$

(*b*) $\lim_{x\to 3} \dfrac{x^2-2x-3}{3x^2-x^3}$

(*c*) $\lim_{x\to +\infty} \dfrac{x^2-2x-3}{3x^2-x^3}$

(*d*) $\lim_{x\to 0} \dfrac{x^2-2x-3}{3x^2-x^3}$

2. (Bonus 2 pts) Write the equations of horizontal or vertical asymptotes (if any) of $f(x) = \dfrac{x^2-2x-3}{3x^2-x^3}$.

Note that in Pb. 1, you computed some limits of this function.