NAME: —————————————————————— Panther ID: ————————————

Quiz 1   MAC-2311   Fall 2015

To receive full credit you should completely justify each answer.

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

$(a) \lim\limits_{x \to 3} \dfrac{x^2 - 5x + 6}{3x - x^2}$

$(b) \lim\limits_{x \to 0^-} \dfrac{x^2 - 5x + 6}{3x - x^2}$

$(c) \lim\limits_{x \to +\infty} \dfrac{x^2 - 5x + 6}{3x - x^2}$

$(d) \lim\limits_{x \to -\infty} \dfrac{\sqrt{9x^2 + 1}}{x + 6}$

2. (Bonus 2 pts) List all asymptotes (vertical and horizontal) of $f(x) = \dfrac{x^2 - 5x + 6}{3x - x^2}$.

Briefly justify. Note that in Pb. 1 (a), (b), (c), you computed some limits of this function.