187 §3- DISCRETE MATHEMATICS - Quiz 5

Instructor: Andrés E. Caicedo

October 4, 2011

Name _____

1. Define $*$ as follows: If x, y are reals, then

$$x * y = \begin{cases} 2x + 3y & \text{if } x > y, \\ 2y + 3x & \text{if } x \leq y. \end{cases}$$

   (a) Find $5 * -1$ and $-1 * 5$.

   (b) Solve $x * 2x = -3$.

2. Suppose that x is rational and $x^2 y$ is irrational. Prove that y is irrational.