

# Functions

Math 235 Fall 2000

Consider this worksheet as an addition to your homework assignment. In other words, *this worksheet is fair game for the quiz!*

**1.** For each pair of sets  $A$  and  $B$  given below, describe a function from  $A$  to  $B$ . Explain why the rule you define is a function. What is the range of your function? Then describe a rule from  $A$  to  $B$  that is *not* a function, and explain why it is not a function.

(a)  $A = \{\text{students in 235}\}, B = \{\text{students in 235}\}.$

(b)  $A = \{\text{JMU students}\}, B = \mathbb{R}.$

(c)  $A = \{\text{elephants}\}, B = \{\text{baseball teams}\}.$

**2.** For each pair of sets  $A$  and  $B$  given below, describe a function with domain  $A$  and range  $B$  two ways: by giving a formula, and by sketching a graph.

(a)  $A = \mathbb{R}, B = [-2, 1].$

(b)  $A = [0, 1], B = [0, 1].$

(c)  $A = (-\infty, 2) \cup (2, \infty), B = (-\infty, 4) \cup (4, \infty).$