

Math 235 Fall 2000

Quiz 2 (9/8)

Name: \_\_\_\_\_

You have 20 minutes to take this quiz. Each problem will be graded for clarity of work as well as correctness, so show all work **clearly and in order**. Circle or otherwise indicate your final answers. Please note that there are problems on both the front and the back of this page.  
NO CALCULATORS.

**1.** (6 points) [Similar to 1.3 #41]

Solve the inequality  $|2x + 5| > 3$ . Write your final answer three ways: in notation using the symbols  $<$ ,  $\leq$ ,  $>$ , and/or  $\geq$ , in interval notation, and by sketching the solution set on a number line.

**2.** (8 points) [Similar to #2c on the Functions handout]

Describe a function (both by sketching a graph and giving a formula) that has domain  $\{x \mid x \neq 2\}$  and range  $\{y \mid y \neq -1\}$ .

*Turn over for more...*

**3.** (6 points) [Similar to 1.4 #51]

An ellipse with center  $(h, k)$  is given by an equation of the form:

$$\frac{(x - h)^2}{a^2} + \frac{(y - k)^2}{b^2} = 1.$$

Find the center of the ellipse defined by the general equation:

$$2x^2 + 3y^2 - 8x + 6y + 5 = 0.$$