

MATH110(0402) Elementary Mathematical Models

Quiz 3, Wednesday, February 27, 2009

Name: _____

Show all work clearly and in order, and circle your final answers. Justify your answers algebraically whenever possible. Calculator is allowed in this quiz. You have 15 minutes to take this 12 point quiz. Only the first 10 points you gain will count.

1. (12 points)

$$x \geq -2 \quad y \geq -10 \quad y \geq -x \quad x + 2y \leq 10 \quad y \geq x - 10$$

- (1) Graph the system of linear inequalities on the grid below. Label all lines, shade the region that does NOT satisfy the inequality and identify the feasible region with the letter FR.
- (2) Mark all corner points with letters and find their coordinates by solving linear systems. Justify on the graph to see if your answer is right.
- (3) Find the maximum and minimum value of $p = x + 3y$, given (x, y) lies in the feasible region.