QUIZ 5 - MATH 111 YOUR NAME:

Friday, February 25 George Voutsadakis

Read each problem **very carefully** before starting to solve it. Each problem is worth 5 points. It is necessary to show **all** your work. Correct answers without explanations are worth 0 points. GOOD LUCK!!

- 1. Your family likes to eat fruit, but because of budget constraints you spend only \$6 each week on fruit. Your two choices are apples and oranges. Apples cost \$0.60 per pound and oranges cost \$0.30 a piece. Let a denote the number of pounds of apples that you buy and b the number of oranges that you buy.
 - (a) If you buy one or more pound of apples, how much less money do you have to spend on oranges? Then how many fewer oranges can you by?
 - (b) Use the answer to the previous part to find the slope of b as a linear function of a. (Recall for this part that the slope is the change in the function that results from increasing the independent variable by 1 unit.)
 - (c) To find the initial value of b, determine how many oranges you can buy if you buy no apples.
 - (d) Use your previous answers to find a formula for b as a function of a.

- 2. Here you will have to play with equations of straight lines.
 - (a) A straight line L_1 has equation x + 2y = 2. Find an equation for the straight line L_2 that is perpendicular to L_1 and passes through the point (1,3).

(b) Find an equation for the straight line L_2 that passes through the point (6, -2) and is parallel to the line L_1 passing through the points (1, 5) and (9, 1).