Instructions. Put your first and last name at the top of your paper. Everyone is to do their own worksheet but only one from each group is graded with the score shared. Be sure to show your work and explain your reasoning. All worksheets from each group will be collected. This worksheet has two sides, and two problems.

1. Find an equation of the line through the point (3, 5) that cuts off the least area from the first quadrant.

Answer: \( y = -\frac{5}{3}x + 10 \).

2. The manager of a 100-unit apartment complex knows from experience that all units will be occupied if the rent is $800 per month. A market survey suggests that, on average, one additional unit will remain vacant for each $10 increase in rent. What rent should the manager charge to maximize revenue?

Answer: $900 a week. (The maximum revenue of $81,000 a week occurs when 90 units are occupied at a rent of $900 a week).