1. At a bakery, small rolls are made from the same dough that they use to make bread loaves. If a batch of dough was used to make loaves of bread, the extra dough (there's always a little bit extra...) is used to make some small rolls. In particular, for every five loaves of bread, at least four small rolls are also made. There might be additional batches of dough made specifically to make rolls, though. To meet standing orders from their large customers, the bakery will also make a minimum of 40 loaves of bread and a minimum of 60 rolls each day. Each loaf of bread requires 2 tablespoons of yeast. Each roll requires 1/2 teaspoon of yeast. The bakery's supplier can only provide 3 quarts of yeast a day. Note that there are 3 teaspoons in a tablespoon, 16 tablespoons in a cup, and 4 cups in a quart.

   In addition, each loaf of bread takes up $\left(\dfrac{5}{557}\right)^{\text{th}}$ of their total oven time, and each roll takes up $\left(\dfrac{1}{557}\right)^{\text{th}}$ of their total oven time.

   They make a profit of \$1.50 on each loaf of bread they sell and a profit of \$0.25 on each roll that they sell. They have a good reputation in town, and sell all that they make of either product.

   (a) There are five constraints in this problem. Give each of them in terms of inequalities.

   (b) Draw the feasible region and find all of the corner points.

   (c) What is the profit formula?

   (d) Find the profit at each corner point.

   (e) State the number of loaves of bread and rolls that they should produce each day in order to maximize profit.