# Linear Programming Problem Name:­­­­­­­­­­­\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Hr.\_\_\_\_\_\_\_

1. **Identify the variables.**
2. **Find the equation that you need to maximize (or minimize). “Profit Equation”**
3. **Write the system of inequalities (constraints).**
4. **Graph each inequality.**
5. **Find the vertices of the feasible region using substitution or elimination.**
6. **Test the vertices (corners) of the feasible region in the “Profit Equation”.**
7. **Answer the question!**

*Kristina is making cookies to sell at a Bake Sale. A dozen oatmeal cookies require 3 cups of flour and 2 eggs. A dozen sugar cookies require 4 cups of flour and 1 egg. She has 40 cups of flour and 20 eggs. She can make no more than 9 dozen oatmeal cookies and no more than 7 dozen sugar cookies, and she earns $3 for each dozen oatmeal cookies and $2 for each dozen sugar cookies*. ***How many dozens of each type of cookie should she make to maximize her profit?***

1. **Identify the variables.**

$$x=number of dozens of oatmeal cookies$$

$$y=number of dozens of sugar cookies$$

1. **Find the equation that you need to maximize (or minimize). “Profit Equation”**

$$P\left(x, y\right)=$$

1. **Write the system of inequalities (constraints).**

1. **ON BACK**
2. **ON BACK**
3. **Test the vertices (corners) of the feasible region in the profit equation.**
4. **Answer the question!**

**4. Graph each inequality. Label all x & y – intercepts.**





**5. Find the vertices of the feasible region using substitution or elimination. Attach a piece of paper, if necessary**

**Go back to front and finish 6. & 7.**