**Linear Programming Day** Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

# Evaluate

Use linear programming. Find the values of x and y that maximize or minimize each objective function.

1.It takes a tailoring shop 2 hours of cutting and 4 hours of sewing to make a knit suit. To make a wool suit, it takes 4 hours of cutting and 2 hours of sewing. At most, 200 hours each day are available for cutting, and 160 hours are available for sewing. The shop makes a profit of $34 on each knit suit and $31 on each wool suit. How many of each type suit should they make in order to maximize the profit?

Variables:

Objective Function:

Constraints:

Vertices:

Substitute into the objective function:

How many of each suit should be made to maximize the profit?

2. A farmer has no more than 50 acres for planting alfalfa and soybeans and has a maximum of $1200 to spend for planting. It cost $20 per acre to plant alfalfa and $30 per acre to plant soybeans. The profit per acre for alfalfa is $250 and the profit for soybeans is $300. How many acres of each crop should he plant in order to maximize his profit?

Variables:

Objective Function:

Constraints:

Vertices:

Substitute into the objective function:

How many acres of each crop should be planted to maximize profit?