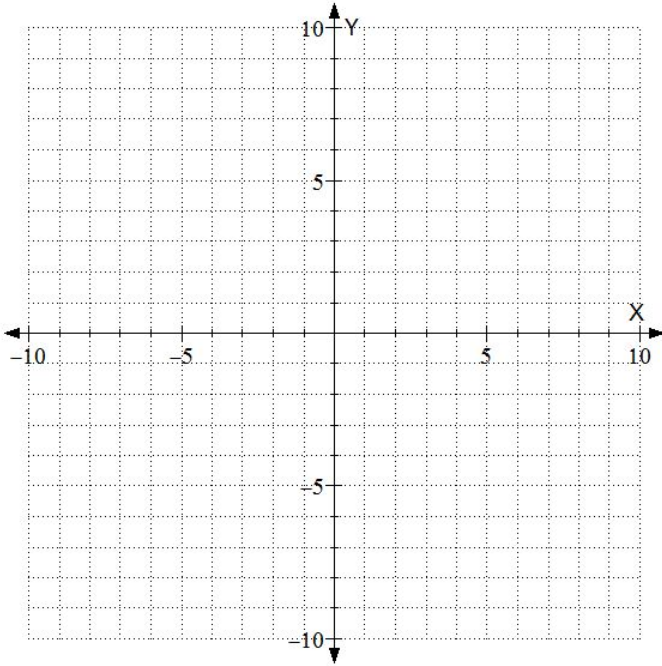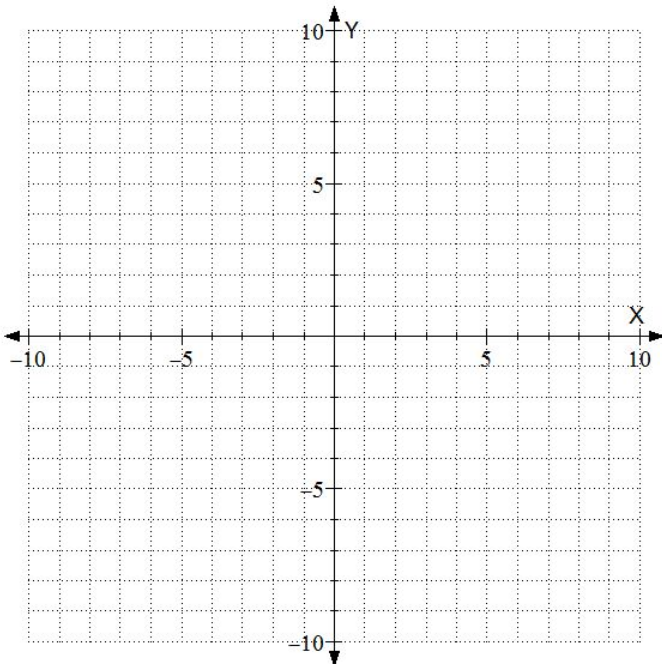**Finite**

Name _____ Date _____ Hour _____

9.4 Assignment

Find the maximized or minimized solution for the linear objective function subject to the given constraints.
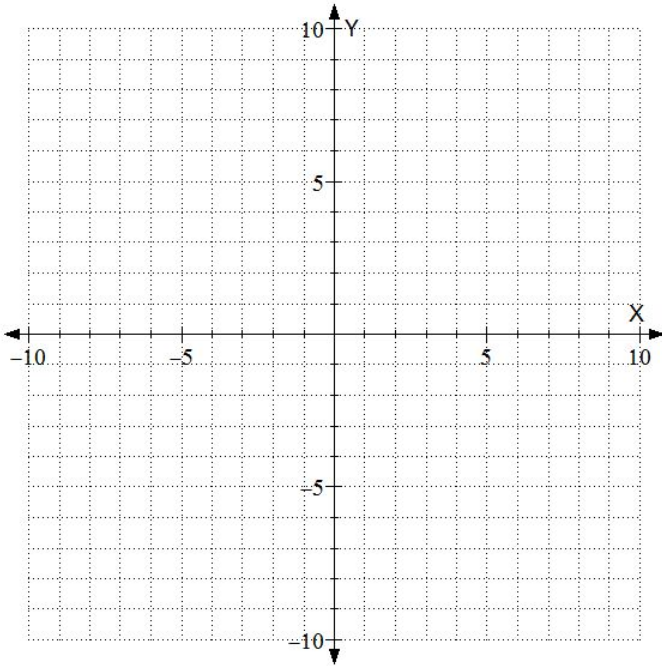
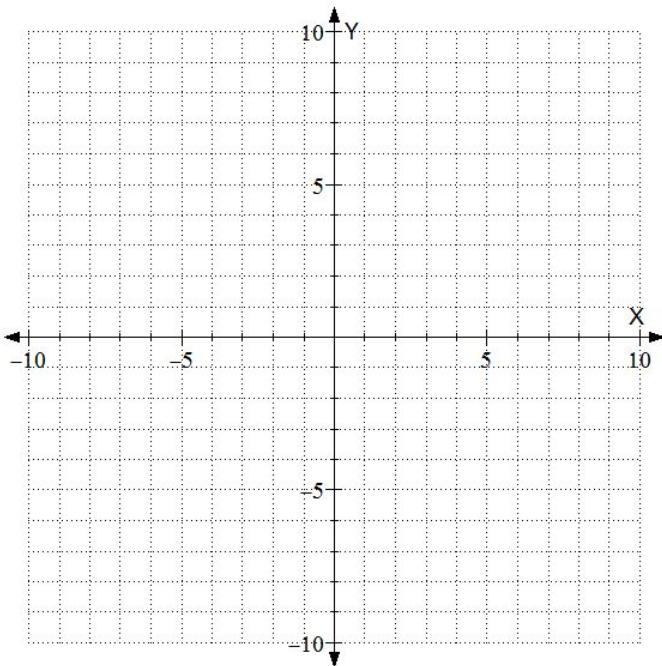1. Maximize $P = 1.25x + 2.75y$ subject to $x \geq 0,\ y \geq 0,\ 2x + 3y \leq 12,$ and $3y \geq 2x$.

2. Minimize $C = 5x + 3y$ subject to $x \geq 0,\ y \geq 0,\ 6x - 2y \leq 6,$ and $3x + 2y \leq 12$.

3. Maximize and minimize $C = 3x - 2y$ subject to $x \geq 0, \ y \geq 0,$
$5x + 5y \geq 10, -3x + 6y \geq -36, \ 10x + 10y \leq 100, \ \text{and} \ -3x + 4y \leq 12.$

4. Maximize and minimize $Z = 4x + 2y$ subject to $x \geq 0, \ y \geq 0,$
$x - 3y \geq -6, \ 6x + 2y \geq 24, \ \text{and} \ x \leq 9.$

5. A automobile company manufactures two products, hybrid car and SUV, on two assembly lines, I and II. It has been determined that the company will realize a profit of $3000 on each hybrid car and a profit of $2000 on each SUV. To manufacture a hybrid requires 10 hours on line I and 10 hours on machine II. To manufacture an SUV requires 30 hours on line I and 6 hours on line II. The amount of time line I can create one style of automotive is 180 hours and line II is required to run for at least 60 hours before a different automotive can begin assembly. How many units of each product should be produced to maximize the company's profit?

	Hybrid	SUV	Time Required
Line I			
Line II			
Profit			