**Homework 3.9**  Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Math 1 Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Block: \_\_\_\_\_\_

**Whatzup Toyz**

Whatzup Toyz is a small toy company that specializes in toy cars and toy trucks. The people at Whatzup Toyz are condiment they can sell all the oy cars and trucks they make. But there are *two constraints* that limit their production today:

**WHEELS:** Each car needs 4 wheels. Each truck needs 6 wheels.

Whatzup Toyz has 360 wheels in stock.

**SEATS:** Each car needs 2 seats. Each truck needs 1 seat.

Whatzup Toyz has 100 seats in stock.

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Write two inequalities. Then, find the intersection of these inequalities to show all combinations of cars and trucks that Whatzup Toyz can make with the two constrains given.

Let x = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 y = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_



 Inequality #1: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 X-intercept: \_\_\_\_\_\_\_ Y-intercept: \_\_\_\_\_\_\_

 Inequality #2: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 X-intercept: \_\_\_\_\_\_\_ Y-intercept: \_\_\_\_\_\_\_

Suppose the profit on each toy car is $1 and each truck is $3. How many cars and how many trucks should Whatzup Toyz make in order to maximize their profit?

**Objective Function:** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Vertex 1: \_\_\_\_\_\_\_\_\_\_ = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Vertex 2: \_\_\_\_\_\_\_\_\_\_ = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Vertex 3: \_\_\_\_\_\_\_\_\_\_ = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Solution: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_