Math 105-30 Summer Term III
Quiz 4 Name: _____

To receive full credit for this 25 point quiz, you must show ALL work.

1. (*10 points*) Decide if given the points $x = 15$ and $y = 6$ are feasible in the given system of constraints.

$$20x + 50y \leq 600$$

$$40x + 30y \leq 800$$

$$35x \leq 400$$

$$x, y \geq 0$$

2. (*15 points*) Jacob Townson Chili Dogs makes the best chili dogs in town! His classic dog requires 1 bun, 1 hot dog, and 1 big scoop of chili. His quadruple mega ultra dog requires 1 bun (that will do a lot of work), 3 hot dogs, and 4 big scoops of chili (talk about messy)! On a given day, the company has 200 hot dogs, 100 buns, and approximately 800 big scoops of chili. The company makes $3 for every classic dog and $7 on every quadruple mega ultra dog. Formulate mathematically the problem of determining how many of each type of dog the company should make this day to maximize profit. Is it feasible to make 75 classic dogs and 20 quadruple mega ultra dogs? Is this a stupid business model (answer wisely, it could be a point on the quiz)?