Identifying Constraints and Interpreting Solutions

Name_____ Class Period_____

Constraints in Decision Making – Concession Stand Dilemma

Jimmy is at a Lil Hawks basketball game watching his younger brother Johnny play. He is hungry and asks his mom for some money. She is gracious and gives him $10 to spend on all 3 of them. The concession stand is selling hot dogs for a dollar and hamburgers for $2. She tells him not to buy a drink since she already has one. Jimmy gets to the counter and starts wondering what combinations he can get for his $10.

1. Write an equation using 2 variables to represent Jimmy's purchasing decision.
    Use d = number of hot dogs and h = number of hamburgers

2. Use your equation to figure out how many hot dogs he can buy if he gets 3 hamburgers.

3. How many hamburgers can he get if he buys 2 hot dogs?

4. Solve your equation (from #5) in terms of the number of hot dogs, d.

5. Graph the equation you just came up with in
    problem #8.
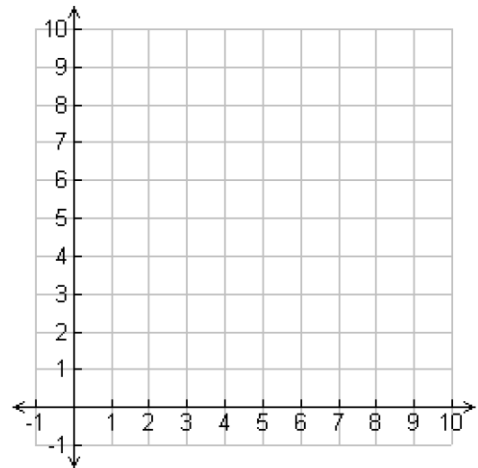
6. Find the minimum and maximum number of hot
    dogs he can buy. Write your answer as an
    inequality in terms of d, the number of hot dogs.

7. Find the minimum and maximum number of hamburgers he can buy. Write your answer as an inequality in terms of h, the number of hamburgers.

8. Identify the points representing your answers to problems 2 and 3 on your graph.