Name _____ Date _____

Word Problems That Require Equations or Inequalities- Independent Practice Worksheet

Write a system of equations, graph them, and find the solution.

1. Vasko was renting a high performance bicycle for his Olympic training. Bicycle A is $25 per month and requires a down payment of $500. Bicycle B is $50 per month rent and requires a down payment $200. How many months would Vasko need to rent the bikes in order for the total cost to be the same?
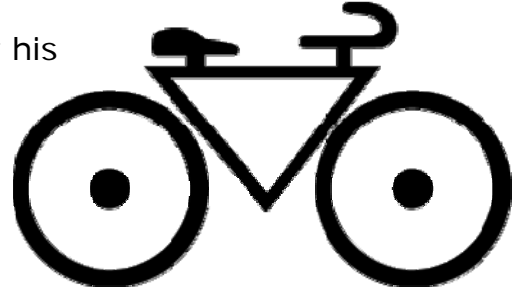
2. Dante is holding a local dance for the community. He pays $125 to rent the local firehouse for the evening. He must also pay $3 for insurance for every guest at the party. If Dante charges $8 for entry to the dance, how many tickets must he sell in order to recover all the money he has to pay?

3. There were two painters, Fred and Jack. Fred can paint 3 paintings per hour, and Jack can paint 2 paintings per hour. Fred has already painted 9 paintings and Jack has completed 10 paintings. They took a break when they finished the same total number of paintings. How many paintings did they each make in total? How long will it take each painter?

4. Daren is opening a store that sells wooden mats. He invested $10 for marketing and raw materials cost $8 for each mat he makes. Daren can sell his mats for $9 per mat. He will break even once he makes and sells a certain number of mats, with identical expenses and sales. What would the total expenses and sales be then? How many mats would that take?

5. John opened a factory with 11 supervisors and 5 managers on its staff. He plans to hire additional employees at a rate of 2 supervisors per month and 4 managers per month. Eventually, there will be an equal number of each type of worker in the factory staff. How many of each type will there be? How long will that take?

6. Alice and Alma have to fill a workbook. Alice has already completed 3 pages and can do 7 pages per hour. Alma has completed 11 pages, but can only work at a rate of 3 pages per hour. Eventually Alice will catch up and the two will be working on the same page. How long will that take? How many pages will each of them have finished?

7. Emma is planning a surprise party. She is considering using one of two venues. The banquet hall of hotel A will cost $862 for a reservation, plus $76 per dinner. The banquet hall of hotel B will cost $75 per dinner, in addition to $894 for the reservation. In order to make the best decision, Emma figures out how many guests it would take to have the venues cost the same amount. What would the total cost be? How many guests would that be?

8. Wilson and William meet in the computer lab to type up their assignments. Wilson can type at a speed of 29 words per minute, and William can type 30 words per minute. Wilson already has 972 words typed up, William has typed 971 words. They sit down and start typing together, the two students will reach the same word count before long. How long will that take? What will the word count be?

9. Kevin needs to find a cheap courier service to deliver birthday gifts to his sister. The first courier he is considering charges $14 plus $7 per pound. The second charges $15 plus $6 per pound. Kevin determines that, given her gift's weight, the two courier services are equivalent in terms of cost. How much will it cost? What is the weight?

10. Harry is planning a trip by air. He has to choose the cheaper of two airlines. Airline A charges $50 for a ticket and $25 per bag of luggage. Airline B charges $30 for a ticket and $30 per bag of luggage. Harry determines that, given his number of suitcases, the two airlines are equivalent in terms of cost. How much will it cost? How many suitcases did he have?