

- 1) In order to prepare for a fundraiser, you go to the supermarket to buy hamburgers and chicken patties. All the other items for your fundraiser have been donated. Hamburgers cost \$4.00 per pound and chicken costs \$2.00 per pound. You must spend no more than \$400. You will be selling hamburgers for \$5.00 each and chicken sandwiches for \$4.00. Your goal is to raise at least \$600. You need to have at least 50 hamburgers available for sale and 80 chicken sandwiches available for sale.
- What does your x-value represent?
 - What does your y-value represent?
 - Write the inequalities that represent the conditions listed in the problem.
 - List three possible numbers of hamburgers and chicken sandwiches that could be made available to meet the conditions.
 - Can you sell 60 hamburgers and 80 chicken sandwiches? Why or why not?
 - Can you sell 60 hamburgers and 80 chicken sandwiches? Why or why not?

- 2) You are making two different items available for sale at the craft fair in two weeks. You have no more than 40 hours to spend making your items in the next two weeks. Item 1 takes 30 minutes to make per item, costs \$.45 in materials, and can be sold for \$4.50. Item two takes 2 hours to make, costs \$2.25 in materials, and can be sold for \$18.00. You need to have at least 8 of each item available for sale on the day of the craft fair. Your goal is to spend less than \$40 in materials and make \$300.
- What does your x-value represent?
 - What does your y-value represent?
 - Write the inequalities that represent the conditions listed in the problem.
 - List three possible numbers of items available for sale.
 - Can you make 46 of item 1 and 8 of item 2? Why or why not?
 - Can you make 32 of item 1 and 12 of item 2? Why or why not?

- 3) You have two part-time jobs. Both jobs require that you spend a minimum of 6 hours per week. You have a maximum of 30 hours to spend at each of the jobs. Your first job pays \$11 per hour and your second job pays \$12.75 per hour. You are hoping to earn at least \$345 this week.
- a. What does your x-value represent?
 - b. What does your y-value represent?
 - c. Write the inequalities that represent the conditions listed in the problem.
 - d. List three possible values for the number of hours you could work at each job to meet the conditions.
 - e. Can you work 24 hours at the first job and 6 hours at the second job? Why or why not?
 - f. Can you work 15 hours at each job? Why or why not?

- 4) Katie is buying plants and soil for her garden. The soil costs \$4 per bag, and the plants cost \$10 each. She wants to buy at least 5 plants. She cannot spend more than \$100. If each bag of soil contains 5 cubic feet of soil, and each rectangular planting box with dimensions 2 feet x 3 feet x 2 feet deep needs 3 plants.
- What does your x-value represent?
 - What does your y-value represent?
 - Write the inequalities that represent the conditions listed in the problem.
 - Can she fill three planting boxes?

- 5) During summer vacation, Ben decides to sell hot dogs and pretzels on a food cart. It costs Ben \$0.50 for each hot dog and \$0.40 for each pretzel. He has only \$100 to spend each day on hot dogs and pretzels. He wants to sell at least 200 items each day. He will sell hot dogs for \$3.00 each and pretzels for \$2.00 each. He is hoping to make at least \$500 each day.
- What does your x-value represent?
 - What does your y-value represent?
 - Write the inequalities that represent the conditions listed in the problem.
 - List three possible combinations of hot dogs and pretzels that could be sold to meet the conditions.
 - Can Ben sell 120 hot dogs and 100 pretzels? Why or why not?
 - Can Ben sell 50 hot dogs and 160 pretzels? Why or why not?