

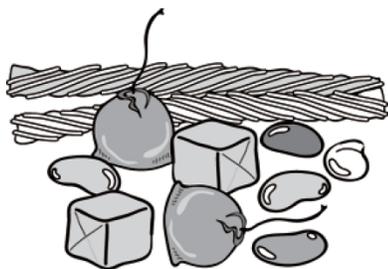
Name _____ Period _____ Date _____

Systems Problems plus Challenge

1. You purchase 8 gal of paint and 3 brushes for \$152.50. The next day, you purchase 6 gal of paint and 2 brushes for \$113.00. How much does each gallon of paint and each brush cost?
2. The local preschool ordered all new bicycles and tricycles for the new school year. Each bicycle and tricycle is shipped in its own box. Oddly, the manufacturer shipped all the wheels in a separate box. If there are 16 boxes of bicycles/tricycles total, and 45 wheels total, how many tricycles were ordered?
3. Calvin mixes candy that sells for \$2.00 per pound with candy that costs \$3.60 per pound to make 50 pounds of candy selling for \$2.16 per pound. How many pounds of each kind of candy did he use in the mix?
4. At an ice cream parlor, ice cream cones cost \$1.10 and sundaes cost \$2.35. One day, the receipts for a total of 172 cones and sundaes were \$294.20. How many cones were sold?
5. Your teacher is giving you a test worth 100 points containing 40 questions. There are two-point and four-point questions on the test. How many of each type of question are on the test?
6. On December 13th, versus the Washington Wizards, Shaquille O'Neal scored his season high in points, 40. His 40 points were scored all on free throws and two-point baskets. He made a total of 25 shots. How many two-point baskets did Shaq make?
7. Quentin was challenged to a half-court shooting competition. For every half-court shot that he makes, he will earn 20 points. For each half-court shot he misses, he will lose 5 points. After 20 half-court shots, Quentin has zero points. How many half-court shots did he make?
8. A Honda dealership sells both motorcycles and cars. There are a total of 200 vehicles on the dealership's lot. The detailer cleaned all the wheels of all the vehicles, which totaled 698 wheels. How many motorcycles are there on the lot?
9. Last Tuesday, Regal Cinemas sold a total of 8500 movie tickets. Proceeds totaled \$64,600. Tickets can be bought in one of 3 ways: a matinee admission costs \$5, student admission is \$6 all day, and regular admissions are \$8.50. How many of each type of ticket was sold if twice as many student tickets were sold as matinee tickets?
10. Billy's Restaurant ordered 200 flowers for Mother's Day. They ordered carnations at \$1.50 each, roses at \$5.75 each, and daisies at \$2.60 each. They ordered mostly carnations, and 20 fewer roses than daisies. The total order came to \$589.50. How many of each type of flower was ordered?

The Candy Problem – Challenge!

Read the following problem. Write down your thoughts for Questions 1 to 4, and discuss them with a partner. Then, solve the problem.



Daniel bought 1 pound of jelly beans and 2 pounds of chocolates for \$2.00. A week later, he bought 4 pounds of caramels and 1 pound of jelly beans, paying \$3.00. The next week, he bought 3 pounds of licorice, 1 pound of jelly beans, and 1 pound of caramels for \$1.50. How much would he have to pay on his next trip to the candy store if he bought 1 pound of each of the 4 kinds of candy?

1. What are the unknowns in the problem? How many are there? Assign a variable to represent each unknown.
2. Write equations based on the given information using the variables you chose. How many equations did you write?
3. What is the question asking you to find? Express this both in a sentence and in a mathematical equation.
4. What approach could you take to solving this problem? What are some of the obstacles you anticipate?
5. Solve the problem. Be prepared to share your solution and articulate the mathematics you used. There are multiple approaches to this problem but only one correct solution.