

Algebra 2

Linear Systems Applications – Day 3

1. Suppose you invest \$1500 in equipment to put pictures on T-shirts. You buy each T-shirt for \$3. After you have placed the picture on a shirt, you sell it for \$20. How many T-shirts must you sell to break even?
2. 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?
3. Sally has 20 coins in her piggy bank, all dimes and quarters. The total amount of money is \$3.05. How many of each coin does she have?
4. Ashley needs a refrigerator for her dorm room. She has narrowed it down to two models: a Magic Chef which costs \$135 to buy and \$80 per year in energy and an Avanti which costs \$190 to buy and \$63 per year in energy. How long will it take for the total cost of the two refrigerators to be equal? Which is the better deal if Ashley intends to use it all four years of college?
5. On January 22nd, 2006, Kobe Bryant scored 81 points against the Toronto Raptors. Including three-pointers, two-pointers, and free-throws he made 46 shots. He made three times as many two-point shots as three-point shots. How many free-throws did Kobe Bryant make?
6. A Honda dealership sells both motorcycles and cars. There are a total of 200 vehicles on the lot. The detailer cleaned all the wheels of all the vehicles, which totaled 698 wheels. How many motorcycles are there on the lot?
7. Your teacher is giving you a test worth 42 points containing 18 questions. There are three-point and two-point questions on the test. How many of each type of questions are on the test?
8. The sum of two numbers is 34. Their difference is 8. What are the two numbers?
9. Grandma's Bakery sells single-crust apple pies for \$6.99 and double crust cherry pies for \$10.99. The total number of pies sold on a busy Friday was 36. If the amount collected for all the pies that day was \$331.64, how many of each type were sold?
10. For breakfast, Randy had two Egg McMuffins and a hash brown, totaling 750 calories. Jack only had one Egg McMuffin and a hash brown, totaling 450 calories. How many calories are in each item?

Answers:

1. You must sell 89 T-shirts.
2. Paint costs \$17/gal and brushes \$5.50 each.
3. There are 13 dimes and 7 quarters.
4. After 3.24 costs are the same (\$393.82). Avanti is cheaper in the long run.
5. He made 18 free throws.
6. There are 51 motorcycles on the lot.
7. The test has 6 3-point and 12 2-point questions.
8. The numbers are 21 & 3.
9. 16 apple pies and 20 cherry pies were sold.
10. Egg McMuffins have 300 cal and hasbrowns have 150 calories.