

SHOW ALL WORK. CREATE TABLES TO HELP YOU SOLVE.

DUE DATE: _____

1. You have \$6000 to invest in two stock funds. The first fund pays 5% annual interest and the second account pays 9% annual interest. If after a year you have made \$380 in interest, how much money did you invest in each account?
2. During a sale at the local department store, you buy three sweatshirts and two pairs of sweat pants for \$85.50. Later you return to the same store and buy three more sweatshirts and four more pairs of sweat pants for \$123. What is the sale price of each sweatshirt and each pair of sweatpants?
3. The sum of two numbers is 27. The larger number is 3 more than the smaller number. What are the two numbers?
4. One plane at 520 feet is ascending at a rate of 40 feet per minute, while another plane at 3800 is descending at a rate of 120 feet per minute. How long will it take the two planes to be at the same altitude?
5. You are getting ready to move and have asked some friends to help. For lunch, you buy the following sandwiches at the local deli for \$30: six tuna sandwiches and six turkey sandwiches. Later at night, everyone is hungry again and you buy four tuna sandwiches and eight turkey sandwiches for \$30.60. What is the price of each sandwich?
6. A plane leaves Chicago and flies 750 miles to New York. If it takes 2.5 hours to get to New York flying against the wind, but only 2 hours to fly back to Chicago, what is the plane's rate of speed and what is the wind speed?
7. A coin bank has 250 coins, dimes and quarters, worth \$39.35. How many of each type of coin are there?
8. Flying against a head wind, a plane could fly 3000 km in 6 hours. The plane would require only 5 h for the return trip with no change in the wind. Find the wind speed and the air speed of the plane.
9. How much gold valued at \$12 per gram must be mixed with silver valued at \$.80 per gram to obtain 20 g of an alloy worth \$5 per gram?
10. How many liters of orange juice worth \$1.80 per liter should be mixed with 2.4 L of lemonade worth \$1.15 per liter to produce a punch worth \$1.54 per liter?
11. Bus fare from Amherst to Mount Mohawk is \$26 for adults and \$18 for students. How many students are on the bus if a total of \$1668 was collected from the 70 passengers?
12. In 4 years, a mother will be 5 times as old as her daughter. At present, the mother is 9 times as old as the daughter. How old are the mother and the daughter today?
13. You have a cable plan that cost \$39 a month for a basic plan plus one movie channel. Your friend has the same basic plan plus two movie channels for \$45.50. What is the basic plan that you both pay?
14. A 30 L solution is 80% antifreeze. How much water must be added to produce a solution that is 60% antifreeze?
15. Flying against a head wind, a plane could fly 3000 km in 6 hr. The plane would require only 5 h for the return trip with no change in the wind. Find the wind speed and the air speed of the plane.
16. Tickets to a play cost \$5 at the door and \$4 in advance. The theater club wants to raise at least \$400 from the play. Write and graph an inequality for the number of tickets the theater club needs to sell. If the club sells 40 tickets in advance, how many do they need to sell at the door to reach their goal?
17. Admissions to the movie theater costs \$7.50 for adults and \$3.50 for students. The theater must bring in at least \$200 per movie. Write an inequality for the number of tickets the theater need to sell to make a profit. If the theater sells 15 adult tickets, how many student tickets do they need to sell to make a profit?
18. Mark is a student, and he can work for at most 20 hours a week. He need to earn at least \$75 to cover his weekly expenses. His dog-waling job pays \$5 per hour and his job as a car wash attendant pays \$4 per hour. Write a system of inequalities to model the situation and graph the inequalities.