

Systems of Equations Word Problems

- 1) The high school that Gabriella attends is selling tickets to the annual talent show. On the first day of ticket sales the school sold 4 senior citizen tickets and 5 student tickets for a total of \$102. The school took in \$126 on the second day by selling 7 senior citizen tickets and 5 student tickets. What is the price each of one senior citizen ticket and one student ticket?
- 2) A plane flying in the same direction of the wind travels 183 mph. If the same plane was to fly against the wind it would travel 141 mph. Find the speed of the plane in still air and the speed of the wind.
- 3) An 18-hole golf course has par-3, par-4 and par-5 holes(3 points, 4 points, 5 points respectively). There are twice as many par-4 holes as there are par-5 holes. How many holes of each type are there if a golfer has par on every hole for a score of 70?
- 4) The sum of three integers is 189. The first integer is 28 less than the second. The second integer is 21 less than the sum of the first and third integers. Find the three integers.
- 5) Bethany and Sophie are selling pies for a school fundraiser. Customers can buy apple pies and lemon meringue pies. Bethany sold 6 apple pies and 4 lemon meringue pies for a total of \$80. Sophie sold 6 apple pies and 5 lemon meringue pies for a total of \$94. How much does each pie cost?
- 6) Tickets sale records for the annual talent show reflects that on the first day of ticket sales 3 senior citizen tickets were sold and 3 child tickets were sold for a total of \$69. Day two \$91 was collect by selling 5 senior citizen tickets and 3 child tickets. How much does each ticket cost?
- 7) A bakery makes cookies, brownies, and muffins daily. Each batch of cookies requires 2 cups of flour, 2 eggs, and 1 cup of sugar. Each batch of brownies requires 1 cup of flour, 3 eggs and 2 cups of sugar. Each muffin requires 3 cups of flour, 2 eggs and 2 cups of sugar. There are 85 cups of flour, 70 eggs, and 60 cups of sugar available in stock. If all supplies are consumed, how many batches of brownies, cookies and muffins can the bakery make?
- 8) Ling and Carlos are selling cookie dough for a school fundraiser. Customers can buy packages of chocolate chip cookie dough and packages of gingerbread cookie dough. Ling sold 8 packages of chocolate chip cookie dough and 12 packages of gingerbread cookie dough for a total of \$364. Carlos sold 1 package of chocolate chip cookie dough and 4 packages of gingerbread cookie dough for a total of \$93. Find the cost each of each type of cookie.
- 9) My friends and I went to the candy store on the weekend. One friend bought 4 gum balls, 3 lollipops, and 8 gummy rings, for a total of \$3.25. Another friend bought 10 gum balls, 8 lollipops and 4 gummy rings, for a total of 5.90. I bought 3 gum balls, 2 lollipops, and 15 gummy rings, for a total of \$3.70. How much did each of the candy items cost?
- 10) A plane traveled 580 miles to Boston and back. The trip there was with the wind. It took 5 hours. The trip back was into the wind. The trip back took 10 hours. Find the speed of the plane in still air and the speed of the wind.
- 11) I was working at the cash register at the local grocery store on the weekend. The first customer bought 3 apples, 5 bananas, and 4 oranges, for a total of \$8.95. The second customer bought 8 apples, 1 banana, and 3 oranges, for a total of \$8.10. The third customer bought 2 apples, 2 bananas, and 2 oranges, for a total of \$4.40. How much did each piece of fruit cost?

- 12) Amanda and Danielle are selling flower bulbs for a school fundraiser. Customers can buy packages of tulip bulbs and bags of daffodil bulbs. Amanda sold 6 packages of tulip bulbs and 12 bags of daffodil bulbs for a total of \$198. Danielle sold 7 packages of tulip bulbs and 6 bags of daffodil bulbs for a total of \$127. Find the cost each of one package of tulips bulbs and one bag of daffodil bulbs.
- 13) The local amusement park is a popular field trip destination. This year the senior class at High School A and the senior class at High School B both planned trips there. The senior class at High School A rented and filled 16 vans and 8 buses with 752 students. High School B rented and filled 5 vans and 5 buses with 380 students. How many students can a van carry? How many students can a bus carry?
- 14) There was a clothing sale at the local mall. My mom bought 3 shirts, 4 pairs of pants, and 2 sweaters, for a total of \$88.50. My brother bought 5 shirts, 3 pairs of pants, and 1 sweater for a total of \$76.00. My sister told me that the price of a sweater was twice as much as that of a shirt. What was the price of each item?
- 15) The senior classes at High School A and High School B planned separate trips to the water park. The senior class at High School A rented and filled 14 vans and 16 buses with 1086 students. High School B rented and filled 10 vans and 13 buses with 870 students. Find the number of students in each van and in each bus.
- 16) Yellowstone National Park is a popular field trip destination. This year the senior class at High School A and the senior class at High School B both planned trips there. The senior class at High School A rented and filled 7 vans and 10 buses with 332 students. High School B rented and filled 4 vans and 15 buses with 459 students. Find the number of students in each van and in each bus.
- 17) The school was doing its taxes and had to review the purchases from the phys ed department for the last 3 years. On the first invoice the school purchased 15 basketballs, 8 footballs, and 9 baseballs, for a total of \$368.68. On the second invoice the school purchased 10 basketballs, 12 footballs, and 5 baseballs, for a total of \$339.73. On the third invoice the school purchased 5 basketballs, 2 footballs, and 13 baseballs, for a total of \$172.80. What was the cost for each item?
- 18) A vending machine will accept nickels and dimes only. The attendant checks the machine and finds 42 coins whose value is \$3.40. How many coins of each type were there?
- 19) Sandy has nickels, dimes and quarters that amount to \$3.75 in change. She has three more quarters than dimes but twice as many nickels as quarters. How many dimes, nickels and quarters does Sandy have?
- 20) The coin box of the hospital's vending machine contains only quarters and dimes. There are 6 times as many quarters as dimes. If the total amount of money at the end of the day was \$28.80, how many of each coin was in the box?

Answers

1. senior citizen ticket: \$8, student ticket: \$14
2. Plane: 162 km/h, Wind: 21 km/h
3. par 3 = 6, par 4 = 8, par 5 = 4
4. 49, 56, 84
5. apple pie: \$4, lemon meringue pie: \$14
6. senior citizen ticket: \$11, child ticket: \$12
7. brownies = 4 batches, cookies = 6 batches, muffin = 23 batches
8. package of chocolate chip cookie dough: \$17, package of gingerbread cookie dough: \$19
9. Gum ball = \$0.25, Lollipop = \$0.35, Gummy ring = \$0.15
10. plane: 87 mph, wind: 29 mph
11. Apple = \$0.60, Banana = \$0.75, Orange = \$0.85
12. package of tulips bulbs: \$7, bag of daffodil bulbs: \$13
13. Van: 18, Bus: 58
14. Shirt = \$5.50, Pants = \$12.50, Sweater = \$11.00
15. Van: 9, Bus: 60
16. Van: 6, Bus: 29
17. Basketball = \$12.99, Football = \$14.99, Baseball = \$5.99
18. 26 dimes and 16 nickels
19. 6 dimes, 9 quarters and 18 nickels
20. 18 dimes, and 108 quarters.