# Application of simultaneuos equations (2) - revision

## Problems

1. Pranav and Trevon each improved their yards by planting grass sod and ornamental grass. They bought their supplies from the same store. Pranav spent \$174 on 11 $ft^2$ of grass sod and 14 bunches of ornamental grass. Trevon spent \$171 on 11 $ft^2$ of grass sod and 13 bunches of ornamental grass. What is the cost of one $ft^2$ of grass sod and the cost of one bunch of ornamental grass?

   $ft^2$ of grass sod: \$12, bunch of ornamental grass: \$3

2. Julio's school is selling tickets to the annual dance competition. On the first day of ticket sales the school sold 2 senior citizen tickets and 13 child tickets for a total of \$172. The school took in \$220 on the second day by selling 8 senior citizen tickets and 13 child tickets. What is the price each of one senior citizen ticket and one child ticket?

   senior citizen ticket: \$8, child ticket: \$12

3. The school that Shayna goes to is selling tickets to a fall musical. On the first day of ticket sales the school sold 9 senior citizen tickets and 14 child tickets for a total of \$318. The school took in \$183 on the second day by selling 9 senior citizen tickets and 5 child tickets. What is the price each of one senior citizen ticket and one child ticket?

   senior citizen ticket: \$12, child ticket: \$15

4. Anjali and Nicole are selling pies for a school fundraiser. Customers can buy apple pies and lemon meringue pies. Anjali sold 6 apple pies and 8 lemon meringue pies for a total of \$208. Nicole sold 6 apple pies and 2 lemon meringue pies for a total of \$88. Find the cost each of one apple pie and one lemon meringue pie.

   apple pie: \$8, lemon meringue pie: \$20

5. The senior classes at High School A and High School B planned separate trips to the county fair. The senior class at High School A rented and filled 1 van and 7 buses with 197 students. High School B rented and filled 12 vans and 1 bus with 123 students. Each van and each bus carried the same number of students. Find the number of students in each van and in each bus.

   Van: 8, Bus: 27

6. Elisa's school is selling tickets to a spring musical. On the first day of ticket sales the school sold 7 senior citizen tickets and 4 student tickets for a total of $144. The school took in $180 on the second day by selling 5 senior citizen tickets and 8 student tickets. What is the price each of one senior citizen ticket and one student ticket?

senior citizen ticket: $12, child ticket: $15

7. The sum of the digits of a certain two-digit number is 12. When you reverse its digits you increase the number by 54. Find the number.

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8. Jaidee and Natalie are selling wrapping paper for a school fundraiser. Customers can buy rolls of plain wrapping paper and rolls of holiday wrapping paper. Jaidee sold 2 rolls of plain wrapping paper and 12 rolls of holiday wrapping paper for a total of $152. Natalie sold 14 rolls of plain wrapping paper and 6 rolls of holiday wrapping paper for a total of $128. What is the cost each of one roll of plain wrapping paper and one roll of holiday wrapping paper?

roll of plain wrapping paper: $4, roll of holiday wrapping paper: $12

9. The senior classes at High School A and High School B planned separate trips to the indoor climbing gym. The senior class at High School A rented and filled 8 vans and 4 buses with 308 students. High School B rented and filled 6 vans and 13 buses with 761 students. Every van had the same number of students in it as did the buses. How many students can a van carry? How many students can a bus carry?

Van: 12, Bus: 53

10. 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 14 vans and 7 buses with 294 students. High School B rented and filled 12 vans and 5 buses with 222 students. Every van had the same number of students in it as did the buses. Find the number of students in each van and in each bus.

Van: 6, Bus: 30

**For own study**

11. (A geometry problem) A rectangular soccer field has perimeter 360 yards. Its length is 20 yards more than its width. What are the dimensions?

12. (A money problem) For the 2009 Major League Baseball and National Football League seasons, based on average ticket prices, three baseball tickets and two football tickets would have cost $229.90, while two baseball tickets and one football ticket would have cost $128.27. What were the average tickets prices for the tickets for the two sports?

13. (A mixture problem) A grocer has some $4-per-pound coffee and some $8-per-pound coffee that she will mix to make 50 pounds of $5.60-per-pound coffee. How many pounds of each should be used?

14. (A mixture problem)A large solar heating panel requires 260 gallons of a fluid that is 45% antifreeze. The fluid comes in either a 75% solution or a 10% solution. How many gallons of each should be used to prepare the 260-gallon solution?

15. (A distance-Rate-Time Problem) A train travels 600 miles in the same time that a truck travels 520 miles. Find the speed of each vehicle if the train's average speed is 8 mph faster than the truck's.