Linear System Problems

**A landscaping company placed two orders with a nursery. The first order was for 13 bushes and 4 trees, and totalled $487. The second order was for 6 bushes and 2 trees, and totalled $232. The bills do not list the per-item price. What were the costs of one bush and of one tree?**

**A passenger jet took three hours to fly 1800 miles in the direction of the jetstream. The return trip against the jetstream took four hours. What was the jet's speed in still air and the jetstream's speed?**

**The admission fee at a small fair is $1.50 for children and $4.00 for adults. On a certain day, 2200 people enter the fair and $5050 is collected. How many children and how many adults attended?**

**The sum of the digits of a two-digit number is 7. When the digits are reversed, the number is increased by 27. Find the number.**

Next week your math teacher is giving a chapter test worth 100 points. The test will consist of 35 problems. Some problems are worth 2 points and some problems are worth 4 points. How many problems of each value are on the test?

You are selling tickets for a musical at your local [community](javascript:def('/Glossary/glossaryterm.aspx?word=Community',%20500,%20500);) college.  Student tickets cost $5 and general admission tickets cost $8. If you sell 500 tickets and collect $3475, how many student tickets and how many general admission.

You just purchased a cellular phone and are trying to decide the best cellular phone company in which to give your business. When you contacted the Talks-A-Lot company, they were offering a monthly plan of $40 for 500 minutes and $0.25 for each minute over the 500 minutes. In the Sunday paper you see an ad for the ChatAway company, which offers a monthly plan of $35 for 500 minutes and $0.30 for each minute over the 500 minutes. How many minutes would you have to talk over the 500 minutes for the cost to be the same with both companies? What would be the equal cost?

The Madison Local High School marching band sold gift wrap to earn money for a band trip to Orlando,Florida .The gift wrap in solid colors sold for $4.00 per roll ,and the print gift wrap sold for $6.00 per roll .The total number of rolls sold was 480 ,and the total amount of money collected was $2340. How many rolls of each of each kind of gift wrap were sold?

If 4 apples and 2 oranges equals $1 and 2 apples and 3 orange equals $0.70, how much does each apple and each orange cost? There are no quantity discounts

Two small pitchers and one large pitcher can hold 8 cups of water.  One large pitcher minus one small pitcher constitutes 2 cups of water.  How many cups of  water can each pitcher hold?

A test has twenty questions worth 100 points.  The test consists of True/False questions worth 3 points each and multiple choice questions worth 11 points each.  How many multiple choice questions are on the test?

Margie is responsible for buying a week's supply of food and medication for the dogs and cats at a local shelter.  The food and medication for each dog costs twice as much as those supplies for a cat.  She needs to feed 164 cats and 24 dogs.  Her budget is $4240.  How much can Margie spend on each dog for food and medication?

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|  | Bill and Steve decide to spend the afternoon at an amusement park enjoying their favorite activities, the water slide and the gigantic Ferris wheel.  Their tickets are stamped each time they slide or ride.  At the end of the afternoon they have the following tickets: | | http://regentsprep.org/Regents/math/ALGEBRA/AE3/ferris.gif |
| |  | | --- | | **Fun Time Amusements**  Water Slide: http://regentsprep.org/Regents/math/ALGEBRA/AE3/checkmark.gifhttp://regentsprep.org/Regents/math/ALGEBRA/AE3/checkmark.gifhttp://regentsprep.org/Regents/math/ALGEBRA/AE3/checkmark.gif  Ferris Wheel:  http://regentsprep.org/Regents/math/ALGEBRA/AE3/checkmark.gifhttp://regentsprep.org/Regents/math/ALGEBRA/AE3/checkmark.gifhttp://regentsprep.org/Regents/math/ALGEBRA/AE3/checkmark.gif  Total:  $17.70 |   **Bill's Ticket** | |  | | --- | | **Fun Time Amusements**  Water Slide:  http://regentsprep.org/Regents/math/ALGEBRA/AE3/checkmark.gifhttp://regentsprep.org/Regents/math/ALGEBRA/AE3/checkmark.gif  Ferris Wheel:  http://regentsprep.org/Regents/math/ALGEBRA/AE3/checkmark.gifhttp://regentsprep.org/Regents/math/ALGEBRA/AE3/checkmark.gifhttp://regentsprep.org/Regents/math/ALGEBRA/AE3/checkmark.gif  Total:  $15.55 |   **Steve's Ticket** |
| How much does it cost to ride the Ferris Wheel? How much does it cost to slide on the Water Slide? | | |

The equations 5*x* + 2*y* = 48 and 3*x* + 2*y* = 32 represent the money collected from school concert tickets sales during two class periods.  If *x* represents the cost for each adult ticket and *y* represents the cost for each student ticket, what is the cost for each adult ticket?

**Question**  
A car and a truck leave cities 460 miles apart, traveling toward each other. The car travels 15 miles per hour faster than the truck. They pass one another 4 hours later. What are their speeds?

*Antonio loves to go to the movies. He goes both at night and during the day. The cost of a matinee is $6.00. The cost of an evening show is $8.00. If Antonio went to see a total of 12 movies and spent $86.00, how many night movies did he attend?*

Hannah is helping her father collect all the nails that he dropped in the garage last week. For her assistance, her father has promised to give her a dime for each small nail she finds and a nickel for each large nail. If Hannah finds 128 nails and earns $11.25, then how many small nails did she find?

Mary Ann mows lawns during the summer. On the weekends, she gets $48 per lawn. On the weekdays, she gets $34 per lawn. If Mary Ann mowed 7 lawns and earned $294, how many lawns did she mow on the weekdays and how many on the weekends?

Bass has promised to give $7 to a good cause each time someone shows him that they collected a bag of recyclable cans. He will give $4 for each bag of trash. Yesterday, he donated $90 to a local school. If he did this because fifteen people gave him either trash or cans, how many bags of trash did he receive?

Michael and John are selling Boy Scout Cookies (a recent invention to try and compete with the Girl Scouts). The boys sold 30 boxes of cookies, and earned $56.50. If Coconut Softies costs $1.50 per box and Buttery Tea Dippers costs $2.00 per box, how many boxes of each did they sell?

John has promised to give $4 to a good cause each time someone shows him that they collected a bag of recyclable cans. He will give $3 for each bag of trash. Yesterday, he donated $33 to the local food shelf. If he did this because eleven people gave him either trash or cans, how many bags of recyclable cans did he receive?