Alg2 : Chapter 4.

# Systems of equations

## Using Systems of Two Equations: Word problems

Mixture I: (p.168)
A delivery truck arrives at the Robert's store with 8 small boxes and 5 large boxes. The total charge for the boxes is $184. A large box costs $3 more than a small box. What is the cost of each size box?

Mixture II: (p.169)
Solution A is 2% alcohol. Solution B is 6% alcohol. A service station owner wants to mix the two to get 60 liters of solution that is 3.2% alcohol. How many liters of each should the owner use?

Numbers: (p. 169)
One number is four times another number and their sum is 175. Find the numbers.

Motion I: (similar in p. 170 )
Pearl starts walking at a rate of 3 miles per hour. Four hours later, john hops on his bicycle and travels at a rate of 15 miles per hour to catch her. How long will it take for him to catch her?

Motion II: (Not in book )
Flying with the wind a plane went 183 km/h. Flying into the same wind the plane only went 141 km/h. Find the speed of the plane in still air and the speed of the wind.

==== END ====

1. The senior classes at High School A and High School B planned separate trips to New York City. The senior class at High School A rented and filled 16 vans and 5 buses with 417 students. High School B rented and filled 10 vans and 8 buses with 480 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?

2. A plane traveled 580 miles to Ankara 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.

3. Castel and Gabriella are selling pies for a school fundraiser. Customers can buy apple pies and lemon meringue pies. Castel sold 6 apple pies and 4 lemon meringue pies for a total of $80. Gabriella sold 6 apple pies and 5 lemon meringue pies for a total of $94. What is the cost each of one apple pie and one lemon meringue pie?

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