Math 1 **6.3 Solving Systems using Elimination (D2)** Unit 3 Day 4

*SWBAT solve a system of equations using elimination by multiplying both equations.*

**Solving a System by Multiplying Both Equations**

What is the solution of the system? Use elimination. 

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| **Step 1:** Multiply each equation so you can eliminate one variable. | **Step 2:** Solve for the eliminated variable. Use either of the original equations. |
|  |  |
| **Step 3:** Write your solution as a solution set. |

What is the solution of the system? Use elimination. 

What is the solution of each system? Use elimination.

1. 
2. 
3. 
4. 

**Solving a System of Equations Using Elimination**

1. Brenda's school is selling tickets to a spring musical. On the first day of ticket sales the school sold 3 senior citizen tickets and 9 child tickets for a total of $75. The school took in $67 on the second day by selling 8 senior citizen tickets and 5 child tickets. What is the price each of one senior citizen ticket and one child ticket?
2. Matt and Ming are selling fruit for a school fundraiser. Customers can buy small boxes of oranges and large boxes of oranges. Matt sold 3 small boxes of oranges and 14 large boxes of oranges for a total of $203. Ming sold 11 small boxes of oranges and 11 large boxes of oranges for a total of $220. Find the cost each of one small box of oranges and one large box of oranges.
3. The senior classes at Ardery Kell and Providence planned separate trips to New York City. The senior class at Ardrey Kell rented and filled 16 vans and 5 buses with 417 students. Providence rented and filled 10 vans and 8 buses with 480 students. Each van and each bus carried the same number of students. How many students can a van carry? How many students can a bus carry?
4. 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?

**Challenge:** 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.