Concert tickets were $12 per adult and $8 per child. 60 people came to the concert and $680 dollars was collected. How many children went?	You have 12 coins. Some of them are nickels and some are dimes. All together it adds up to $.80. How many dimes to do you have?	You have two solutions to form a mixture that is 8% acid. One solution is 5% acid and the other is 10% acid. If you have 680 ml of the mixture, how much of each solution was used to create the solution?	My parents agreed to let me choose an allowance system. They would pay an allowance that is my age doubled plus $5 or an allowance that is my age tripled plus $1. At what age are these allowance formulas equal?
Let x = # of children Let y = # of adults	Let x = nickels Let y = dimes	Let x = volume in solution A Let y = volume in solution B	Let x = age Let y = amount of allowance
x + y = 60 **8x + 12y = 680**	**x + y = 12** **.05x + .10 y = $.80**	x + y = 680 0.05x + 0.10y =(.08)(680)	**y = 2x + 5** **y = 3x +1**

A rectangle has a perimeter of 60 cm. Its length is 2 times long as its width. What are the dimensions of the rectangle?	You want to make a 5 pound mix of nuts and raisins. Nuts are $2 per pound and raisins are $3 per pound. You are prepared to spend $11. How many pounds of nuts and how many pounds of raisins will be in the mix?	I'm thinking of two numbers: x and y. Together they add up to 5. However, x is 11 less than y.	
Let x = length Let y = width	Let x = pounds of nut Let y = pounds of raisins	Let x = smaller number Let y = larger number	
$2x + 2y = 60$ $y = 2x$	$x + y = 5$ $2x + 3y = 11$	$x + y = 6$ $x = y - 11$	

Task Card for Systems of Equations Sort

A. Use the graph paper to solve at least 3 of the systems by graphing. Show your work by labeling your graphs carefully. Be prepared to present these solutions to the class by explaining and making sense of your answers. Make sure to check your answers and show your work.

B. Use substitution or another method (linear combination) to solve at least three of the systems. You can use the same systems from Part A or attack new systems. Remember, you can clear decimals by multiplying both sides of the equations by 100. Make sure to check your answers and show your work. Be prepared to defend your answers by showing how they make sense in each problem.

C. Create 1 or more new situations for others to sort. You can model your situation on one of the examples or consider a new situation: cell phone plan prices; a moving company's prices; taxi cab rates; companies that are gaining or losing value; rockets fired at different rates… It's a good idea to try the problem to make sure it works neatly or work backwards as you create the problem. Start with actual answers and then remove them to create the problem. Example:

Bob's moving company charges $10 per hour plus a fee of $50 for the equipment. (think… $50 for 0 hours, then $60, $70, $80…) Carol's moving company charges $20 per hour plus a fee of only $10. (think $10 for 0 hours then $20, $40, $60…) When will the costs be the same? (3 hours)

D. Present a solution: Work with your partner(s) to plan a thoughtful and well- rehearsed presentation to class. Jobs: 1) read the problem dissecting as you go (this is what we know and need to find) 2) Explain the two variables and the system of equations that you can create. 3) Explain which method is most efficient to use to solve then clearly show the steps you took 4) Explain how the solution makes sense and how to check it.

Focus Correction Areas for presentation: 1) Loud, clear, with appropriate pace 2) Is smooth, feels like it was rehearsed 3) All jobs done accurately