

PROBLEM SET – System of Equations by Elimination, Mr. Peralta  
Class 821 and 829

**EQUATIONS**

**PROBLEM 1**

<b>Original Equations</b> (1) $3x + 2y = 1$ (2) $4x + 3y = -2$	<b>To make x coefficients match...</b> Multiply first equation by ____ Multiply second equation by ____	<b>Revised Equations</b> (1) (2)
		<b>Solve for x...</b>

**PROBLEM 2**

<b>Original Equations</b> (1) $3x - 2y = 1$ (2) $8x + 3y = 11$	<b>To make x coefficients match...</b> Multiply first equation by ____ Multiply second equation by ____	<b>Revised Equations</b> (1) (2)
		<b>Solve for x...</b>

**PROBLEM 3**

<b>Original Equations</b> (1) $3x + 2y = 17$ (2) $2x + 5y = 26$	<b>To make x coefficients match...</b> Multiply first equation by ____ Multiply second equation by ____	<b>Revised Equations</b> (1) (2)
		<b>Solve for x...</b>

## WORD PROBLEMS

1. 300 people go to see a play. Adult tickets cost \$20 each ( $x$ ) and senior citizen tickets cost \$15 each ( $y$ ). In total, \$5,000 worth of tickets were sold. How many adult tickets and how many senior citizen tickets were sold? Create and solve a system of equations based on this situation.

Original Equations	Revised Equations and Solution

2. In a small independent theater, tickets were offered for regular seats at \$8 per ticket ( $x$ ) and premium seats at \$12 per ticket ( $y$ ). In total, 50 people attended, earning the theater \$560 in revenue. How many regular seats were sold and how many premium seats were sold? Create and solve a system of equations.

Original Equations	Revised Equations and Solution

3. Jill sold plain cakes ( $x$ ) for \$4 each and decorated cakes ( $y$ ) for \$7 each. By selling 140 cakes (plain and decorated), she ended up making \$800. How many *more* decorated cakes did she sell compared to plain cakes?

Original Equations	Revised Equations and Solution

4. A school's band is taking a field trip. Students will use either vans or buses. Buses can hold 70 students and their instruments. Vans can hold 8 students and their instruments. 226 students will be taking the trip. A bus costs \$280 to rent and a van costs \$70 to rent. The school has \$980 to spend on transportation. How many buses and how many vans can be used?

Original Equations	Revised Equations and Solution