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## Systems of Equations Class Work (Substitution \& Elimination)

Objective: You will be able to choose what you believe to be the most efficient method to solve systems of equations, and solve using that method.

## Solving by Substitution:

## Solving by Elimination:

* Guided Example: Solve each system of equations.

Use what you believe to be the most efficient method, and use each method at least once. Check your answers.
A. $2 x-5 y=10$
$28-4 x=-12 y$
B. $x+2 y=14$
$-4 x-8=2 y$

* Now You Try Some: Solve each system of equations.

Use what you believe to be the most efficient method, and use each method at least once. Check your answers.
I. $-2 x+8 y=-14$
$24 y-6 x=-42$
2. $3 x-12 y=30$

$$
-6 x+15 y=-15
$$

$$
\text { 3. } \begin{aligned}
-9 x-4 y & =-4 \\
-6 y-18 x & =12
\end{aligned}
$$

4. $2 x-4 y+8=0$
$12 x-4 y=24$
5. $9 x+18 y=27$
$4.5 x-9=-9 y$
6. $45 x+54 y=18$
$-36 y-90 x=72$
7. $2 y=-x+1$
$-6 y-3 x=1.5$
8. $\begin{aligned} y & =x^{2} \\ y & =2 x\end{aligned}$

$$
y=2 x
$$

9. $2 x+18=-3 y$ $27 y+17=-18 x+1$
10. $y=|x|$
$y=x-5$
$\qquad$
*Choose any of the systems you solved and are proud of.
Show all of the work to support your solution on the board. ©
*Create any linear equation. Call this equation A .
*Choose two of your peers, and share equations with each other. Name your peer's equations equation $B$ and equation $C$, respectively.
*Solve each system:
I. The system of equations created by your equation $A$ and equation $C$.
11. The system of equations created by your equation $A$ and equation $B$.
12. The system of equations created by your equation $B$ and equation $C$.

## Exit Activity

Choose the option that you believe will benefit you the most! ©

## Option A:

Create any system of equations that would be most efficiently solved by substitution.
Option B: Solve the system:

$$
\begin{aligned}
& 3 x-7 y=10 \\
& 8 y+2=6 x
\end{aligned}
$$

Option C: Create a system of equations involving a linear equation and an absolute value equation. Solve your system.

Option D: Write down any questions you still have regarding solving systems of two equations.

Option E: Solve the system. Support your solution.

$$
\begin{aligned}
& y=|x+3| \\
& x=-5
\end{aligned}
$$

