4D Systems of Equation: Elimination Name: _____ Per: _____

SHOW YOUR WORK FOR FULL CREDIT. NO WORK, NO CREDIT. NO WORK IN PEN.

OBJECTIVE: Find solution(s) from a system of equations by Elimination.

Use the **ELIMINATION** method to solve the systems (rewrite as needed). The first one is done for you.

Add the equations to eliminate the y and find x.

Ex: $\begin{cases} 3x+3y=6 \\ 5x-3y=18 \end{cases}$

$8x = 24$

$x = 3$

Now, let's find y.

$3(3)+3y=6$

$9+3y=6$

$-9 \quad = -9$

$3y=-3$

$y=-1$

Solution: $(3,-1)$

Check : $3(3)+3(-1)=6$

$9-3=6$ ✔

$5(3)-3(-1)=18$

$15+3=18$ ✔

1. $\begin{cases} -4x-2y=2 \\ 16x+2y=10 \end{cases}$

Solution: _____

Check :

2. $\begin{cases} -x+4y=-10 \\ 7x+4y=22 \end{cases}$

Hint: Multiply one of the equations by a negative.

Solution: _____

Check :

3. $\begin{cases} 6x+4y=12 \\ 5x-4y=10 \end{cases}$

Solution: _____

Check :

4. $\begin{cases} -8x-2y=-4 \\ -6x+y=7 \end{cases}$

Hint: Make the x's or y's have the same coefficient.

Solution: _____

Check :

5. $\begin{cases} x-y=10 \\ 7x+5y=22 \end{cases}$

Solution: _____

Check :

6. $\begin{cases} 2x+2y=17 \\ -4x+2y=20 \end{cases}$

Solution: _____

Check :

7. $\begin{cases} -y-2x=6 \\ 4y+8x=-24 \end{cases}$

Solution: _____

Check :

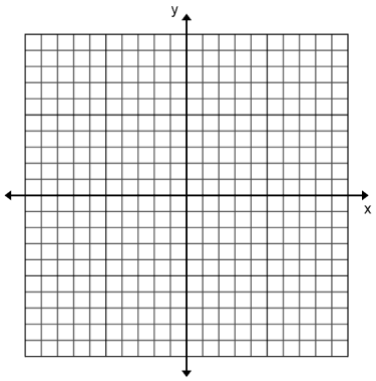
8. $\begin{cases} -3x+2y=7 \\ -y+x=2 \end{cases}$

Solution: _____

Check :

Solve the following systems by the method asked.

9. $\begin{cases} y = 6x + 2 \\ y = 2x - 6 \end{cases}$ GRAPHING

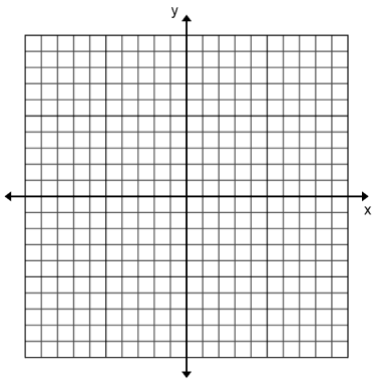


Solution: _____
Check:

10. $\begin{cases} y = -1 + 3x \\ y + x = 12 \end{cases}$ Substitution

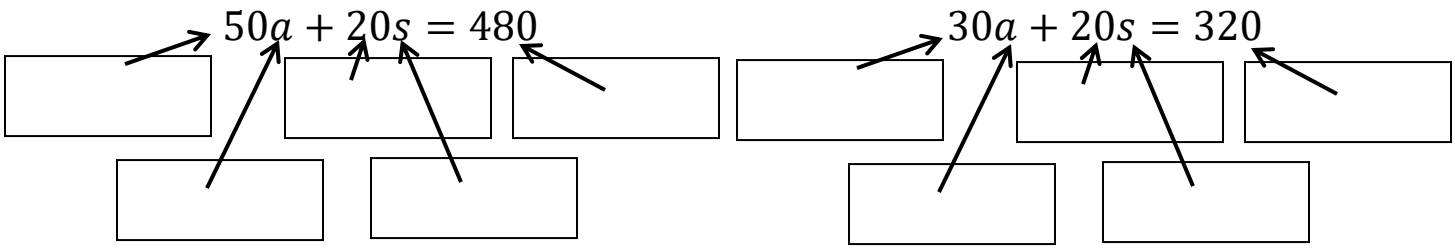
Solution: _____
Check:

11. $\begin{cases} x + y > 9 \\ 3x - y \geq 7 \end{cases}$ GRAPHING



Circle Solution Set

12. The following equations represent the money collected from VHMS concert tickets sales during two different evening performances. Describe each part of the equations in the boxes.



a. Solve for a and s.

b. $a =$ _____ $s =$ _____

c. What does your solution represent?_____

13. David and Chris are selling fruit for a school fundraiser. Customers bought only small boxes of oranges and large boxes of oranges. David sold 3 small boxes of oranges and 14 large boxes of oranges for a total of $203. Chris sold 11 small boxes of oranges and 11 large boxes of oranges for a total of $220.

a. Define your variables.

b. Write two equations

c. Solve the system.

d. Cost of one small box of oranges_____

Cost of one large box of oranges _____