

Extra Credit

Name: hey

Period: \_\_\_\_\_

Date: \_\_\_\_\_

### Choose the Best Method: Systems of Equations

Systems of equations can be solved by (1) graphing; (2) substitution; or (3) linear combination

1. Solve:  $\begin{cases} x - y = 4 \\ x + y = 12 \end{cases}$

$2x = 16$   
 $x = 8$   
 $y = 4$

**(8, 4)** Method: elimination

2. Solve the system:  $\begin{cases} 4x + y = 32 \\ y = 4 \end{cases}$

$28$   $4x + 4 = 32$   
 $4x = 28$   
 $x = 7$

**(7, 4)** Method: Substitution

3. Find the solution:  $\begin{cases} y = -x + 3 \\ y = x + 1 \end{cases}$

**(1, 2)** Method: Graphing

4. Find the intersection:  $\begin{cases} 3x - 5y = 1 \\ 2x + 5y = 9 \end{cases}$

$5x = 10$   
 $x = 2$   
 $4 + 5y = 9$

**(2, 1)** Method: Elimination

5. Solve:  $\begin{cases} y = x + 1 \\ 2x + y = -2 \end{cases}$

$2x + x + 1 = -2$   
 $3x = -3$

**(-1, 0)** Method: Substitution

6. Solve the system:  $\begin{cases} x + 2y = 14 \\ x - 2y = 10 \end{cases}$

$2x = 24$   
 $12$   
 $12 + 2y = 14$   
 $2y = 2$

**(12, 1)** Method: Elimination

7. Solve:  $\begin{cases} x=3 \\ 3x-4y=5 \end{cases}$       $3x+4=5$

$$9-4y=5 \quad 3x-4=5$$

$$-4y=-4 \quad 3x=9$$

$(3, 1)$

$(3, 1)$

Method: Substitution

8. Solve the system:  $\begin{cases} y=-x+5 \\ y=x+1 \end{cases}$

$(2, 3)$

Method: Graphing

9. Find the solution:  $\begin{cases} 4x+2y=6 \\ -4x+5y=1 \end{cases}$

$$4x+2y=6$$

$$-4x+5y=1$$

$$7y=7$$

$$0+7y=7 \quad 4x+2=6$$

$$\frac{7y}{7} = \frac{7}{7} \quad (y=1)$$

$$4x+2(1)=6$$

$$4x+2=6$$

$$\frac{-2}{-2} \quad \frac{-2}{-2}$$

$$4x = 4$$

$(1, 1)$

Method: Elimination

10. Find the intersection:  $\begin{cases} y=2 \\ 4y=-5x+18 \end{cases}$

$$8 = -5x + 18$$

$$-18$$

$$-10 = -5x$$

$$4y = -10 + 18$$

$(2, 2)$

Method: Substitution

11. Solve:  $\begin{cases} 2x-3y=-9 \\ y=-x-2 \end{cases}$

$$2x+3x+6=-9$$

$$5x = -15$$

$$3-2$$

$(-3, 1)$

Method: Substitution

12. Solve the system:  $\begin{cases} 2x+3y=7 \\ -2x+2y=-2 \end{cases}$

$$5y=5$$

$$2x+3=7$$

$(2, 1)$

Method: Elimination