

Name: Key Date: \_\_\_\_\_ Period: \_\_\_\_\_

**Unit 5: System of Linear Equations-Additional Vocabulary Support**

Use the list below to complete the diagram.

Use when you want a visual display of the equations 1	Use when it is easy to solve for one of the variables 2	Use when you want an estimation of the solution 3
Use when one equation is already solved for one of the variables 4	Use when the coefficient of one variable are the same or opposite 5	Use when it is not convenient to use graphing or substitution 6

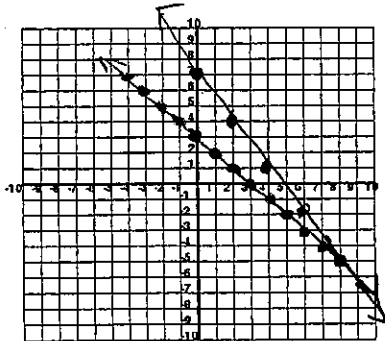
**Choosing a Method for Solving Linear Systems**

GRAPHING	SUBSTITUTION	ELIMINATION
<div style="border: 1px solid black; padding: 5px;"> <p>Box 1</p> <hr/><hr/><hr/><hr/><hr/><hr/> </div>	<div style="border: 1px solid black; padding: 5px;"> <p>Box 2</p> <hr/><hr/><hr/><hr/><hr/><hr/> </div>	<div style="border: 1px solid black; padding: 5px;"> <p>Box 5</p> <hr/><hr/><hr/><hr/><hr/><hr/> </div>
<div style="border: 1px solid black; padding: 5px;"> <p>Box 3</p> <hr/><hr/><hr/><hr/><hr/><hr/> </div>	<div style="border: 1px solid black; padding: 5px;"> <p>Box 4</p> <hr/><hr/><hr/><hr/><hr/><hr/> </div>	<div style="border: 1px solid black; padding: 5px;"> <p>Box 6</p> <hr/><hr/><hr/><hr/><hr/><hr/> </div>

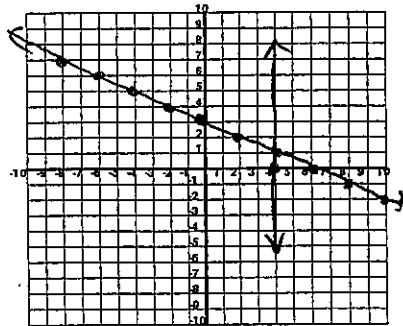
# Systems Review

Solve each system of equations by **GRAPHING**. Clearly identify your solution.

1.  $x + y = 3$   
 $3x + 2y = 14$   
 $y = -x + 3$   
 $2y = -3x + 14$   
 $y = -\frac{3}{2}x + 7$   
 $(8, -5)$



2.  $x + 2y = 6$   
 $x = 4$   
 $2y = -x + 6$   
 $y = -\frac{1}{2}x + 3$   
 $(4, 1)$



Solve each system of equations by **SUBSTITUTION**. Clearly identify your solution.

3.  $y = 7x + 6$   
 $4x - 3y = 16$   
 $4x - 3(7x + 6) = 16$   
 $4x - 21x - 18 = 16$   
 $-17x - 18 = 16$   
 $+18 \quad +18$   
 $-17x = 34$   
 $\frac{-17x}{-17} = \frac{34}{-17}$   
 $x = -2$   
 $y = 7(-2) + 6$   
 $y = -14 + 6$   
 $y = -8$   
 $(-2, -8)$

4.  $x - 7y = -21 \rightarrow x = 7y - 21$   
 $2x - 14y = -42$   
 $2(7y - 21) - 14y = -42$   
 $14y - 42 - 14y = -42$   
 $-42 \neq -42$   
 $\emptyset$

5.  $3x - 5y = 15$   
 $x - 4y = 12$   
 $x = 4y + 12$   
 $3(4y + 12) - 5y = 15$   
 $12y + 36 - 5y = 15$   
 $7y + 36 = 15$   
 $\frac{7y + 36}{-36} = \frac{15}{-36}$   
 $7y = -21$   
 $y = -3$   
 $x = 4(-3) + 12$   
 $x = -12 + 12$   
 $x = 0$   
 $(0, -3)$

6.  $y = -5$   
 $8x + 5y = -17$   
 $8x + 5(-5) = -17$   
 $8x - 25 = -17$   
 $\frac{8x - 25}{+25} = \frac{-17}{+25}$   
 $8x = 8$   
 $x = 1$   
 $(1, -5)$

Solve each system of equations by **ELIMINATION**. Clearly identify your solution.

7.  $x - y = -10$   
 $-x + 6y = 125$   
 $\frac{x - y = -10}{-x + 6y = 125}$   
 $5y = 115$   
 $y = 23$   
 $x - 23 = -10$   
 $\frac{x - 23}{+23} = \frac{-10}{+23}$   
 $x = 13$   
 $(13, 23)$

8.  $2x + 2y = 28$   
 $8x - 2y = 22$   
 $\frac{2x + 2y = 28}{8x - 2y = 22}$   
 $\frac{10x = 50}{x = 5}$   
 $2(5) + 2y = 28$   
 $10 + 2y = 28$   
 $\frac{10 + 2y = 28}{-10} = \frac{-18}{-10}$   
 $2y = 18$   
 $y = 9$   
 $(5, 9)$

9.  $3x + 6y = 27$   
 $(x + 2y = 11) \cdot 3$   
 $-3x - 6y = -33$   
 $\frac{3x + 6y = 27}{-3x - 6y = -33}$   
 $0 = -6$   
 $\emptyset$

10.  $(4x + 5y = 22) \cdot 3$   
 $(7x - 3y = -32) \cdot 5$   
 $12x + 15y = 66$   
 $35x - 15y = -160$   
 $\frac{12x + 15y = 66}{35x - 15y = -160}$   
 $47x = -94$   
 $x = -2$   
 $4(-2) + 5y = 22$   
 $-8 + 5y = 22$   
 $\frac{-8 + 5y = 22}{+8} = \frac{30}{+5}$   
 $5y = 30$   
 $y = 6$   
 $(-2, 6)$