NAME ANSWER KEY DATE _____ PERIOD ALL

SYSTEMS OF EQUATIONS – EXAM REVIEW #5

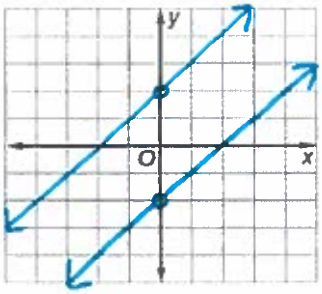
*Match each vocabulary term with its **definition**, then with the **type of lines** which form its graph.*

B, W	1. inconsistent	A. at least one solution	W. parallel lines
A, Z	2. consistent	B. no solutions	X. intersecting lines
D, X	3. independent	C. infinite solutions	Y. identical lines
C, Y	4. dependent	D. exactly one solution	Z. parallel *or* intersecting lines

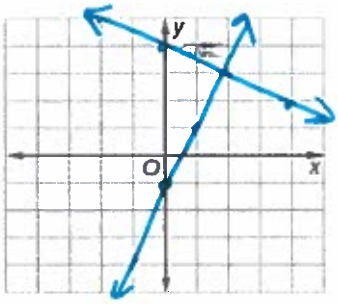
Graph** each system and determine the **number of solutions** that it has. If it has one solution, **name it.

5. $y = x - 2$
$y = x + 2$

no solutions



6. $y = 2x - 1$
$y = -\frac{1}{2}x + 4$



one solution
(2, 3)

Solve the following system of equations using <u>substitution</u>. Don't forget to find x AND y!

7. $y = 3x$
$2x + y = 15$

$2x + 3x = 15$
$5x = 15$
$x = 3$

$y = 3(3)$
$y = 9$

$(3, 9)$

8. $x = y - 7$
$x + 8y = 2$

$y - 7 + 8y = 2$
$9y - 7 = 2$
$9y = 9$
$y = 1$

$x = 1 - 7$
$x = -6$

$(-6, 1)$

Solve the following system of equations using <u>elimination</u>. Don't forget to find x AND y!

9. $3x + 4y = 2$
$+ \quad 4x - 4y = 12$
$7x = 14$
$x = 2$

$(2, -1)$

$3(2) + 4y = 2$
$6 + 4y = 2$
$4y = -4$
$y = -1$

10. $7x + 4y = 2$
$- \quad 7x + 2y = 8$
$2y = -6$
$y = -3$

$(2, -3)$

$7x + 4(-3) = 2$
$7x - 12 = 2$
$7x = 14$
$x = 2$

11. MULTIPLE CHOICE If $y = 5x - 3$ and $3x - y = -1$, what is the value of y? *(Psst... show your work!)*

A 2 B –1 C 7 D –8

$3x - (5x - 3) = -1$
$3x - 5x + 3 = -1$
$-2x + 3 = -1$
$-2x = -4$
$x = 2$

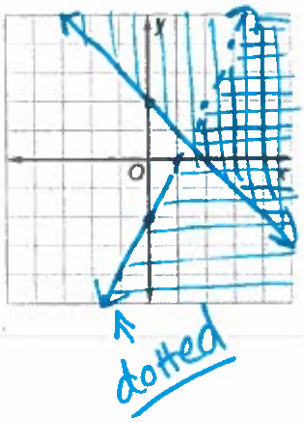
$y = 5(2) - 3$
$y = 10 - 3 = 7$

*could plug in each answer and see which y produces 2 matching x-values!

...OVER FOR MORE! →

Graph the system of inequalities. Don't forget to shade, and choose your line style carefully!

12. $y \geq -x + 2$
$y < 2x - 2$



13. $y < 2x + 4$
$y \geq x + 1$