Name ____ Date _________

5.4 Practice B

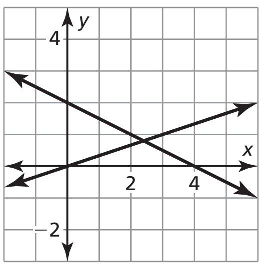
In Exercises 1–3, match the system of linear equations with its graph. Then determine whether the system has *one solution, no solution,* or i*nfinitely many solutions.*

1. $x - 3y = -3$
$-4x + 12y = 12$

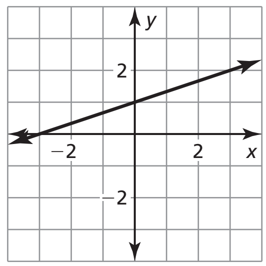
2. $x - 3y = 0$
$x + 2y = 4$

3. $x - 2y = -4$
$3x - 6y = 6$

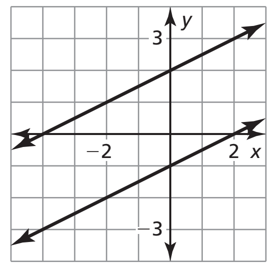
A.



B.



C.



In Exercises 4–9, solve the system of linear equations.

4. $3x - 3y = 6$
$-6x + 6y = -12$

5. $12x - 8y = 10$
$-6x + 4y = 5$

6. $4x - 3y = 16$
$x + y = -3$

7. $6x + 9y = -15$
$4x + 6y = 10$

8. $-x - 4y = 10$
$x + 4y = 10$

9. $-5x + 2y = 3$
$10x - 4y = -6$

In Exercises 10–15, use only the slopes and *y*-intercepts of the graphs of the equations to determine whether the system of linear equations has *one solution, no solution,* or *infinitely many solutions*. Explain.

10. $x - 3y = 9$
$2x - 3y = 9$

11. $-3x + 8y = 32$
$6x - 16y = -64$

12. $2x + 2y = 2$
$9x + 9y = 9$

13. $2x - 4y = -24$
$3x - 6y = -24$

14. $y = -3x + 7$
$3x + 2y = -6$

15. $5x + y = -3$
$2y = -10x - 6$

16. Write a system of three linear equations in two variables so that two of the equations have infinitely many solutions, but the entire system has one solution.

17. Consider the system of linear equations $y = ax + 3$ and $y = \frac{1}{a}x - 2$.

a. If possible, find a value of a so that the system of linear equations has no solution.

b. If possible, find a value of a so that the system of linear equations has one solution.