6.1 – 6.4 Systems of Linear Equations Review

Classify each system of equations.

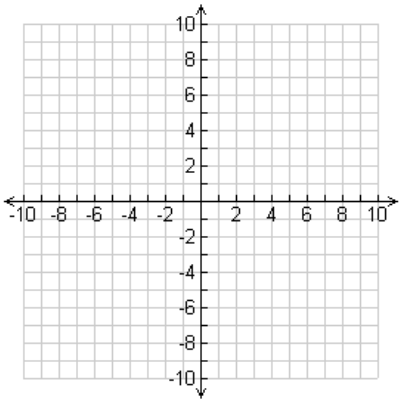
1. $y = x - 1$
$y = -x + 1$

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

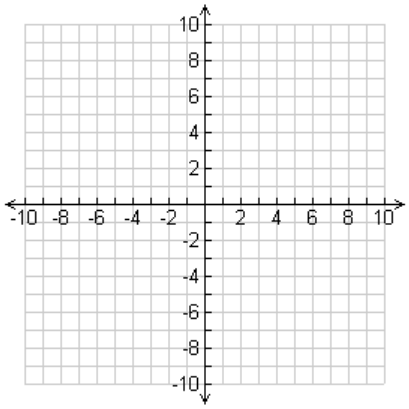
3. $y = x + 4$
$2x - 2y = 2$

Solve each system by graphing

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



5. $-x + 3y = 6$
$x + 3y = 18$



Solve each system by substitution

6. y = x + 5
4x + y = 20

7. x = y – 8
-x – y = 0

8. y = 2x + 10
y = -2x - 6

Use elimination to solve each system of equations.

9. $x - y = 1$
$x + y = -9$

10. $3x + 4y = 19$
$3x + 6y = 33$

11. $x - 0.25y = 6$
$0.5x + 0.5y = -2$

12. Use algebra to determine if (2,-3) is a solution to the system: $7x + 4y = 2$
$7x + 2y = 8$

13. **Recreation** Casey wants to buy a gym membership. One gym has a $150 joining fee and costs $35 per month. Another gym has no joining fee and costs $60 per month.

a. In how many months will both gym memberships cost the same? What will that cost be?

b. If Casey plans to cancel in 5 months, which is the better option for him? Explain.

14. MONEY Harvey has some $1 bills and some $5 bills. In all, he has 6 bills worth $22. Let x be the number of $1 bills and let y be the number of $5 bills. Write a system of equations to represent the information and use substitution to determine how many bills of each denomination Harvey has.

15. CANOEING Laura and Brent paddled a canoe 6 miles upstream in four hours. The return trip took three hours. Find the rate at which Laura and Brent paddled the canoe in still water.

16. Four times one number added to another number is 36. Three times the first number minus the other number is 20. Find the numbers.