Name: _____ **Class:** _____ **Date:** _____ **ID: P**

Algebra 1 Mid-term 2012 Practice

Multiple Choice
Identify the choice that best completes the statement or answers the question.

Solve the inequality. Graph the solution on a number line.

____ 1. $k - 5 < 6$

a. $k < -1$

b. $k < 11$

c. $k < 1$

d. $k > 11$

____ 2. $-4 \geq w - 5$

a. $1 \leq w$

b. $1 \geq w$

c. $-9 \geq w$

d. $9 \geq w$

Solve the inequality.

____ 3. $\frac{b}{9} \geq -8$

a. $b \geq -72$
b. $b \geq 1$
c. $b \geq 72$
d. $b \geq -80$

____ 4. $\frac{-5b}{8} > 5$

a. $b > -8$
b. $b < -8$
c. $b > -\frac{8}{5}$
d. $b > 40$

____ 5. $5m \leq -45$

a. $m \leq -9$
b. $m \geq -9$
c. $m \leq -50$
d. $m \leq -225$

____ 6. $-12f < 72$

a. $f < -6$
b. $f > -864$
c. $f < 84$
d. $f > -6$

____ 7. $2h + 10 > 16$

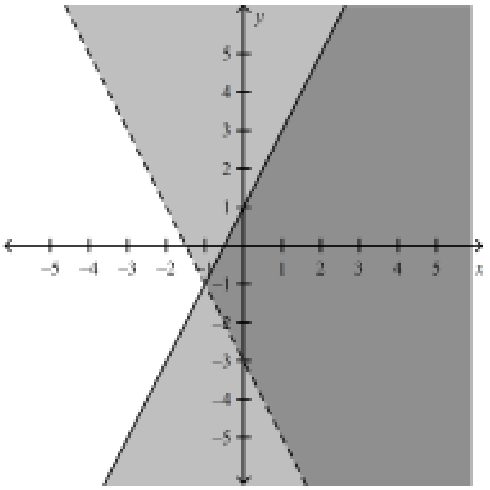
a. $h > 3$
b. $h > 6$
c. $h > -2$
d. $h < 3$

Solve the system of inequalities by graphing.

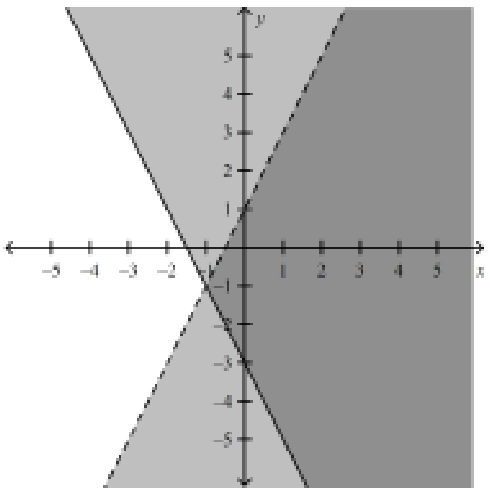
____ 8. $y \leq 2x + 1$

$y > -2x - 3$

a.



c.



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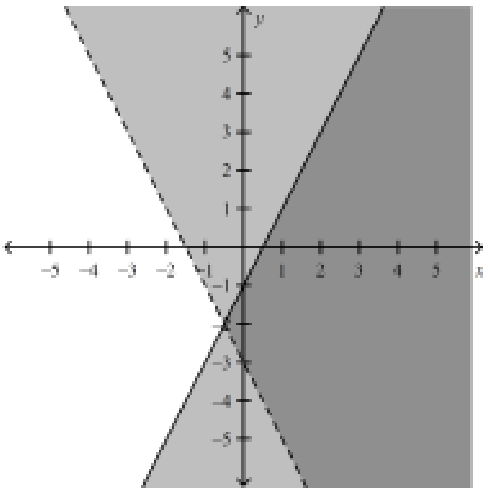
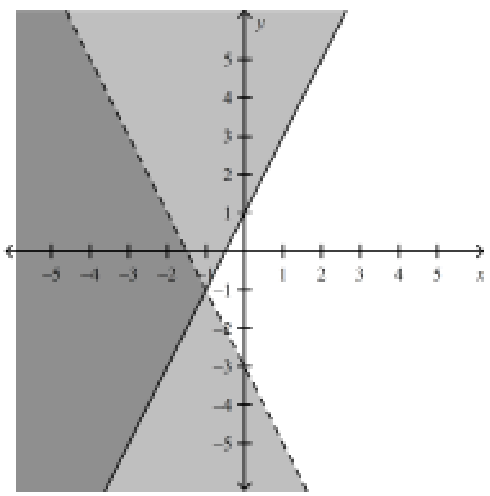


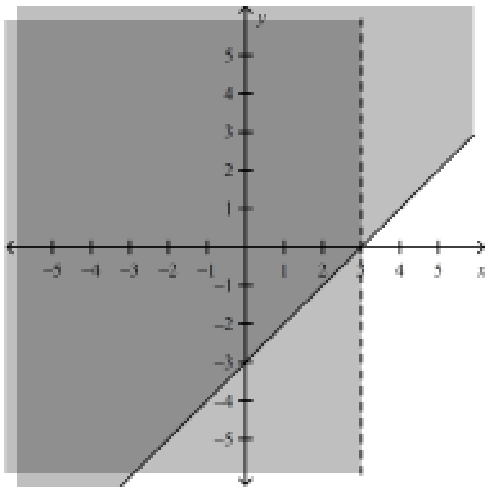
d.



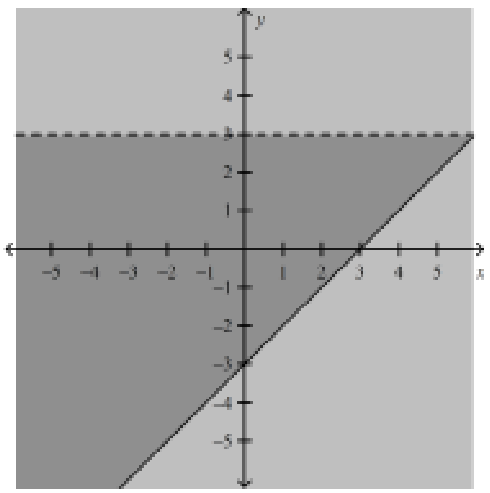
____ 9. $y \geq x - 3$

$y < 3$

a.



c.



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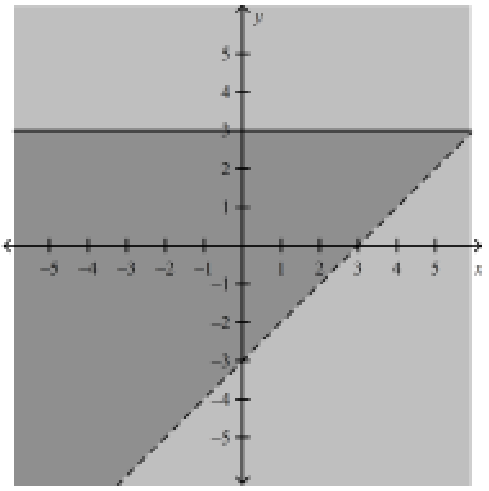

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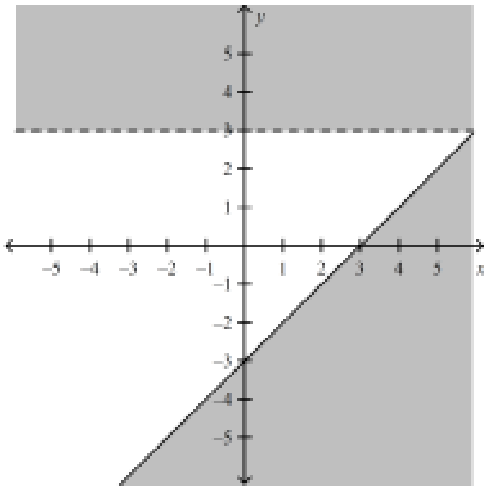

The sum of two positive integers is less than 80 and their difference is more than 10.

____ 10. Write a system of inequalities to represent this situation.

a. $x + y \leq 80$

$x - y \geq 10$

b. $x + y < 80$

$x - y > 10$

c. $y < x + 80$

$y > x - 10$

d. $x + y > 80$

$x - 10 < y$

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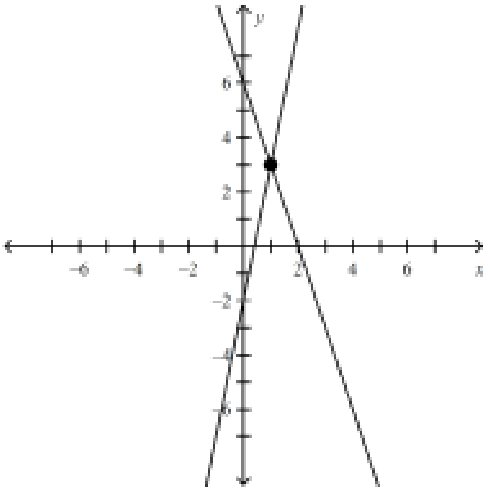
Graph the system of equations. Then determine whether the system has no *solution,* one *solution, or* infinitely many *solutions. If the system has one solution, name it.*

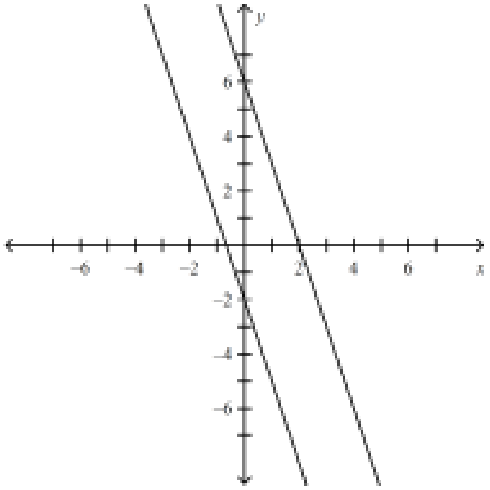
____ 11. $y = -3x + 6$

$y = 5x - 2$

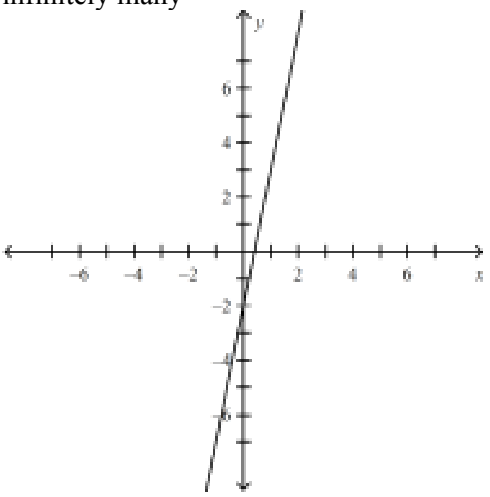
a. one solution; (3, 1)



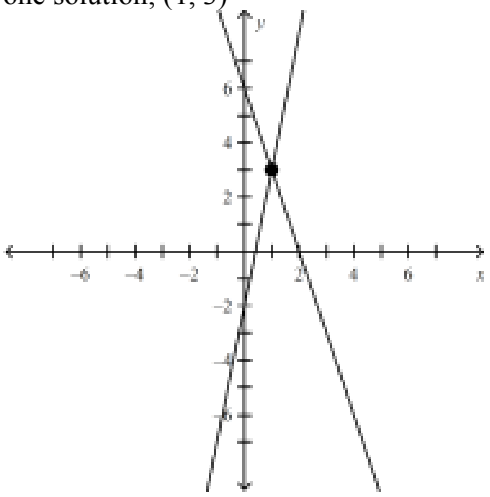
c. no solution



b. infinitely many



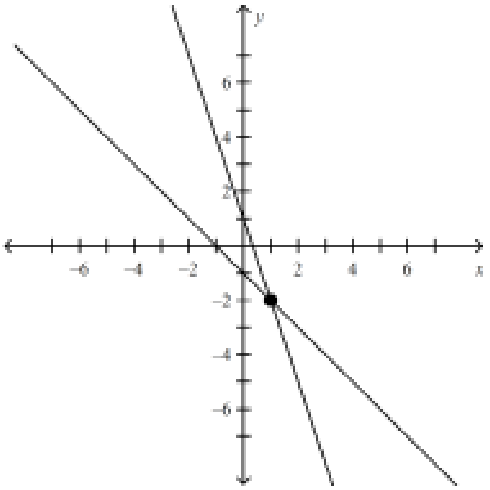
d. one solution; (1, 3)



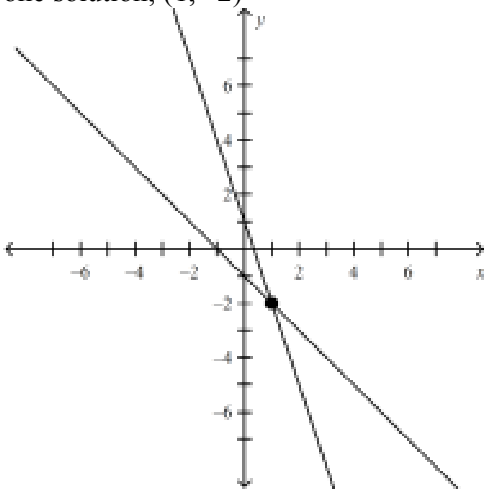
____ 12. $y = -3x + 1$

$y = -x - 1$

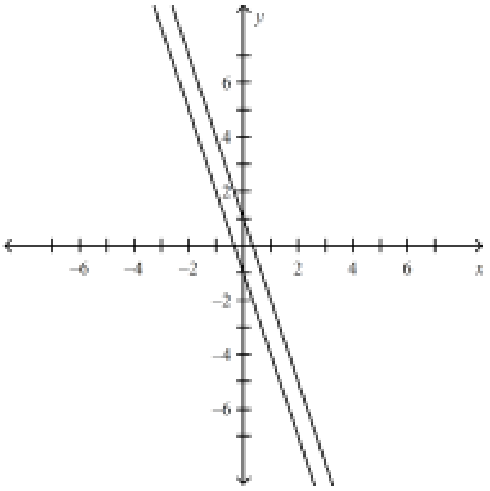
a. one solution; (–2, 1)



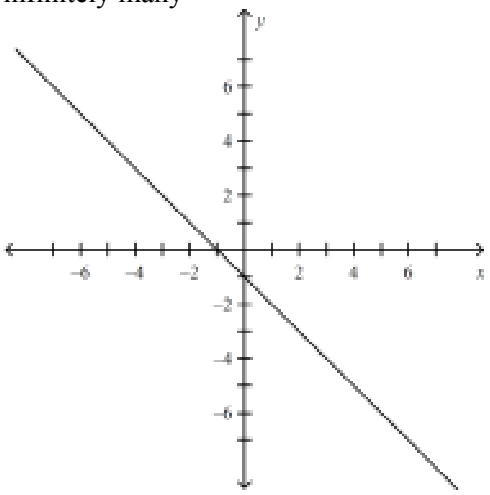
c. one solution; (1, –2)



b. no solution



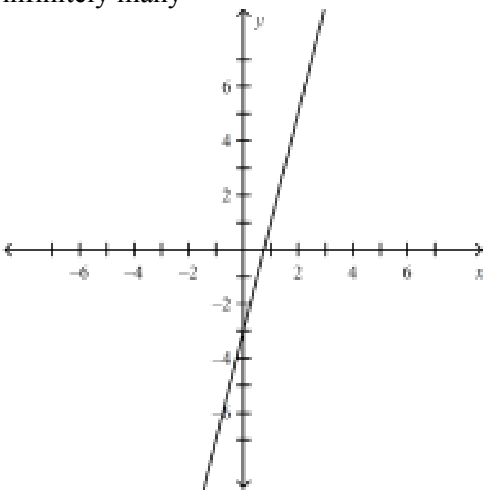
d. infinitely many



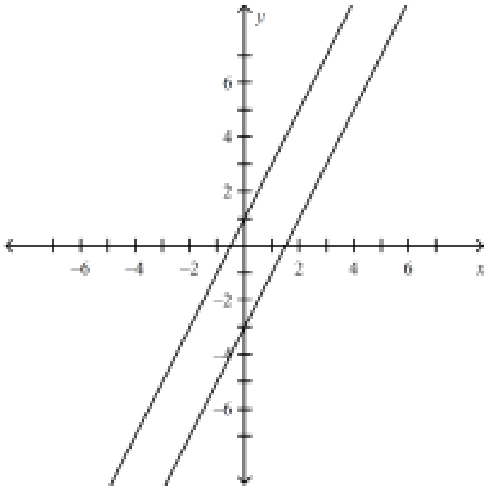
____ 13. $y = 2x + 1$

$y = 4x - 3$

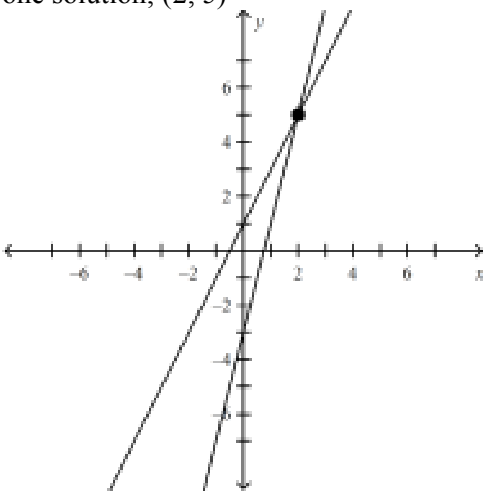
a. infinitely many



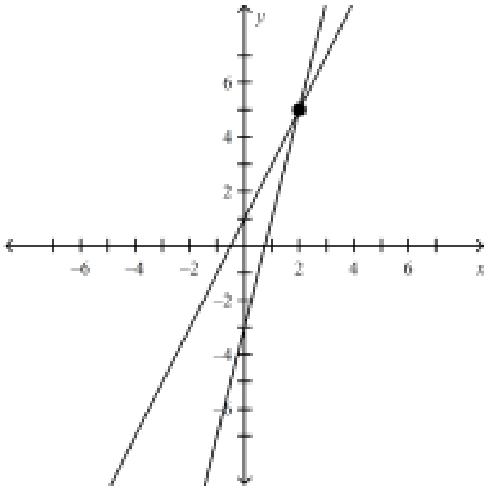
c. no solution



b. one solution; (2, 5)



d. one solution; (5, 2)



Use substitution to solve the system of equations.

____ 14. $y = x + 6$

$4x - 8y = -4$

a. (13, 19)
b. (–11, –5)
c. (–5, –11)
d. (1, 7)

____ 15. $y = x + 8$

$3x - 2y = 1$

a. (25, 17)
b. (1, 9)
c. (17, 25)
d. (–15, –7)

____ 16. $y = 4x + 12$

$6x - 2y = 4$

a. (10, 52)
c. (1, 16)
b. (–14, –44)
d. (–44, –14)

____ 17. y = x + 7

y = 3x + 1

a. (–4, 12)
c. (–2, 8)
b. (4, 0)
d. (3, 10)

Use elimination to solve the system of equations.

____ 18. $8x - 2y = -4$

$-7x + 2y = -4$

a. (0, –2)
c. (–8, –30)
b. (8, 30)
d. (0, 2)

____ 19. $-9x + 6y = -9$

$9x + 3y = 9$

a. (3, –6)
c. (1, 0)
b. (–1, 0)
d. (–3, 6)

____ 20. $4x - 2y = -10$

$-10x + 6y = -8$

a. (–1, –3)
c. (–33, –19)
b. (1, 3)
d. (–19, –33)

Determine the best method to solve the system of equations. Then solve the system.

____ 21. $7x - 2y = 8$

$5x + 2y = 4$

a. elimination using subtraction; (2, – 3)
b. elimination using addition; $\left(-\frac{1}{2}, 1\right)$
c. elimination using addition; $\left(1, -\frac{1}{2}\right)$
d. elimination using subtraction; (–3, 2)

____ 22. $x = -y$

$5x + 6y = -3$

a. substitution; (3, – 3)
c. substitution; (–3, 3)
b. substitution; $\left(-\frac{3}{11}, \frac{3}{11}\right)$
d. elimination using addition; (6, 5)

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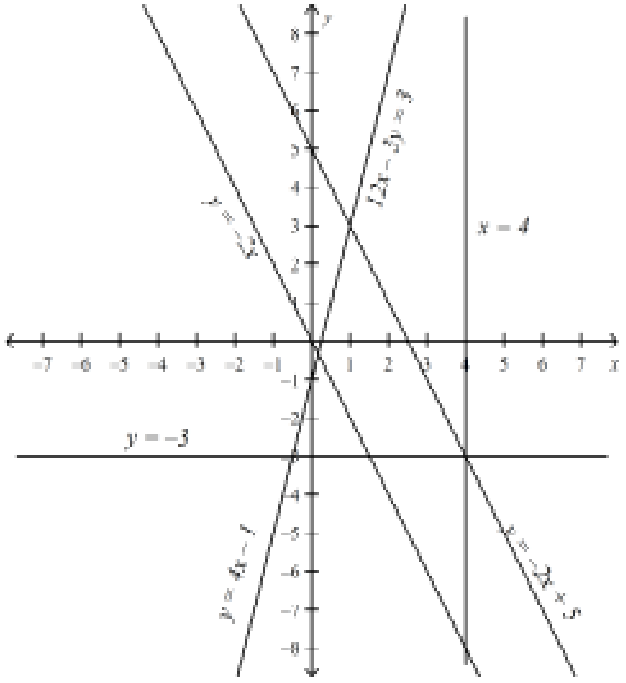
Use the graph below to determine the number of solutions the system has.



____ 23. $12x - 3y = 3$

$y = 4x - 1$

a. infinitely many
b. two
c. one
d. no solution

____ 24. $y = -3$

$x = 4$

a. infinitely many
b. two
c. one
d. no solution

____ 25. $y = -2x$

$y = -2x + 5$

a. infinitely many
b. two
c. one
d. no solution

____ 26. Solve $|d + 4| = 8$.

a. $d = 4$
b. No solutions
c. $d = -12$ or $d = 4$
d. $d = -12$

____ 27. Solve $|d - 4| = 7$.

a. No solutions
b. $d = 11$
c. $d = -3$
d. $d = -3$ or $d = 11$

____ 28. Solve $|d + 5| = 0$.

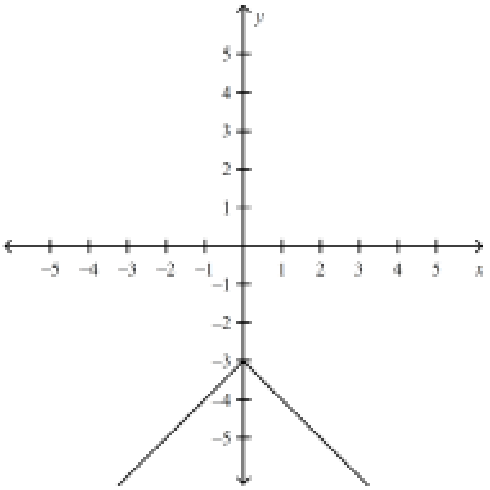
a. $d = -5$
b. No solutions
c. $d = 5$
d. $d = -5$ or $d = 5$

____ 29. Solve $|d - 5| = -3$.

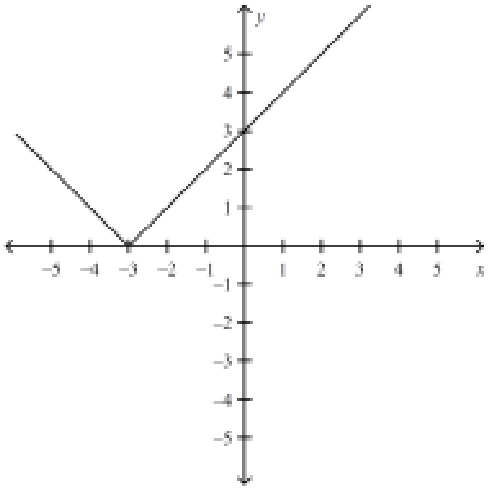
a. $d = 2$ or d = 8
b. $d = 2$
c. No solutions
d. $d = 8$

____ 30. Graph $f(x) = |x - 3|$.

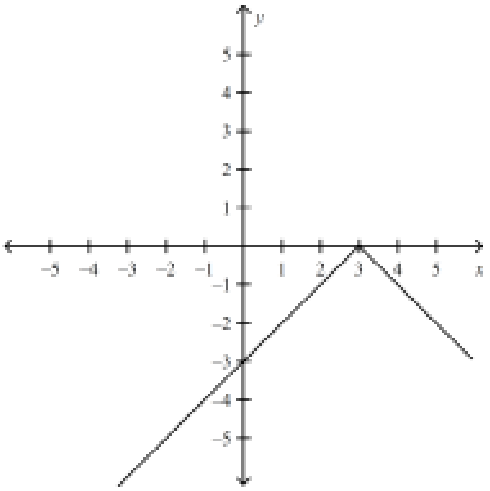
a.



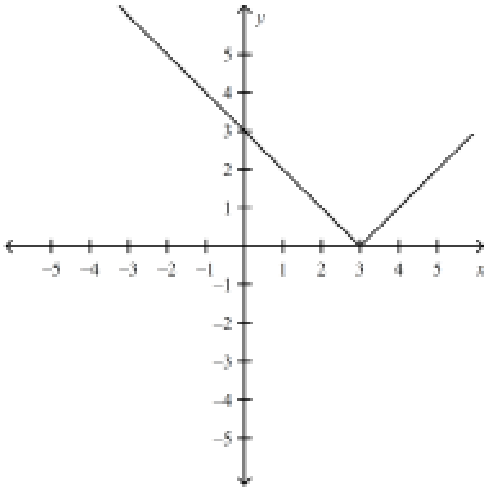
c.



b.

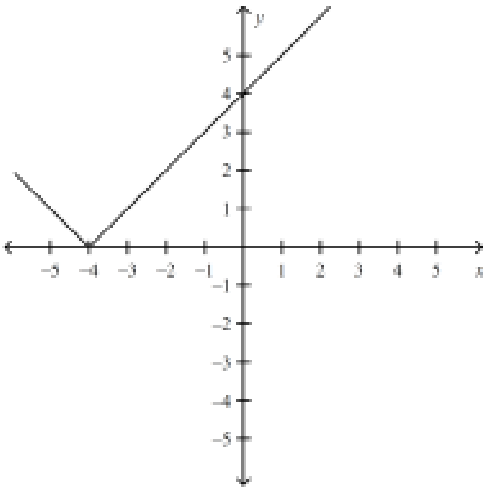


d.

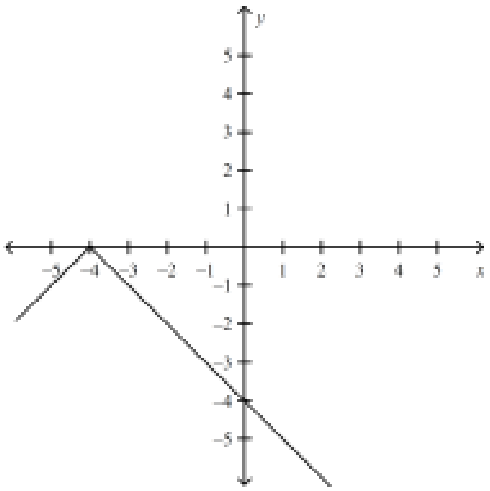


____ 31. Graph $f(x) = |x + 4|$.

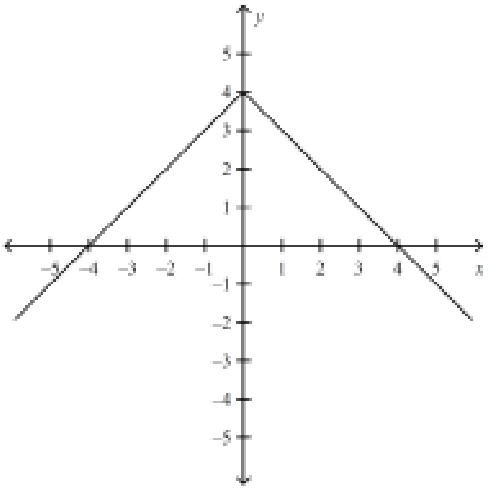
a.



c.



b.



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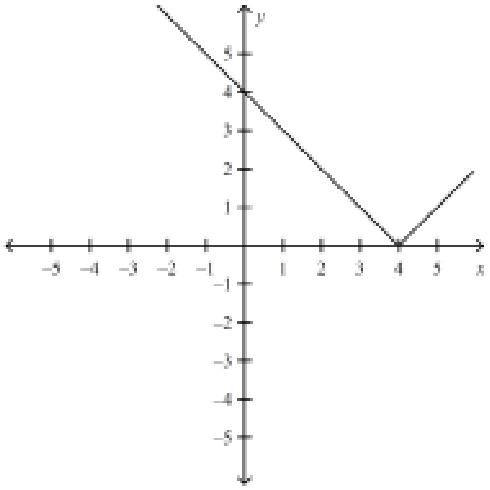
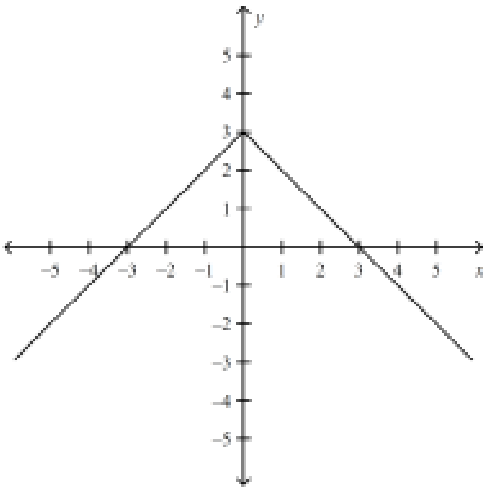
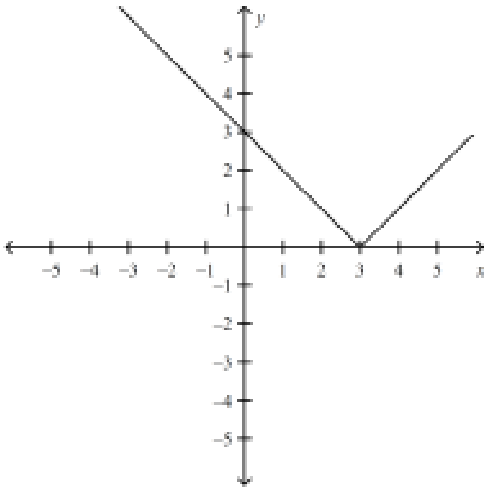


____ 32. Graph $f(x) = -|x + 3|$.

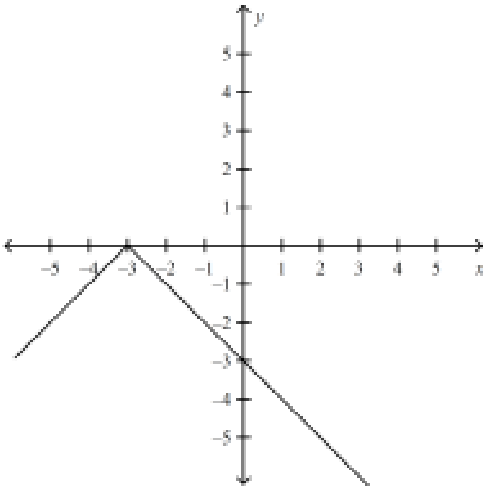
a.



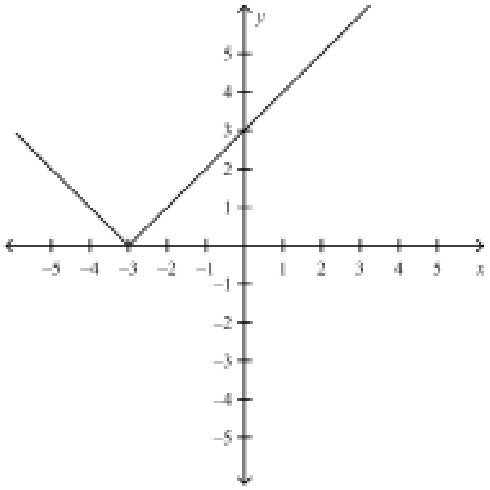
c.



b.

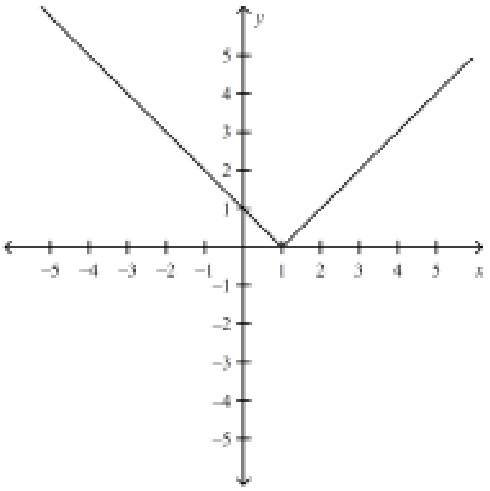


d.

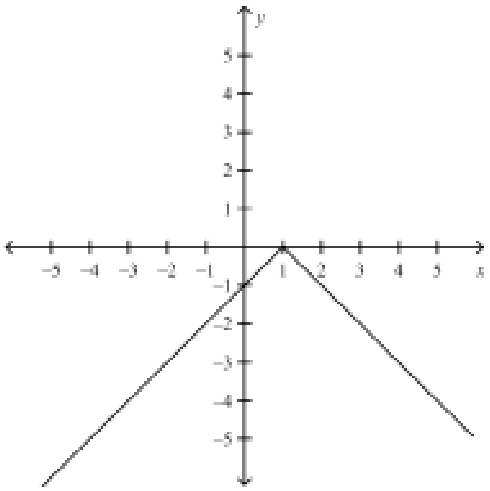


____ 33. Graph $f(x) = |x - 1| + 4$.

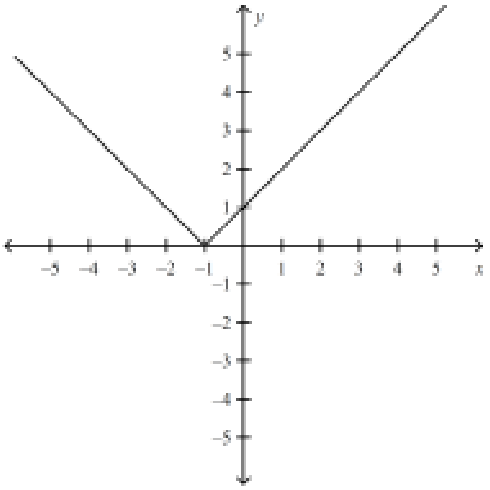
a.



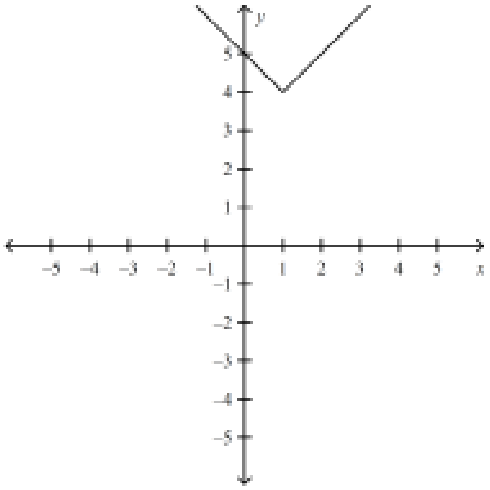
c.



b.

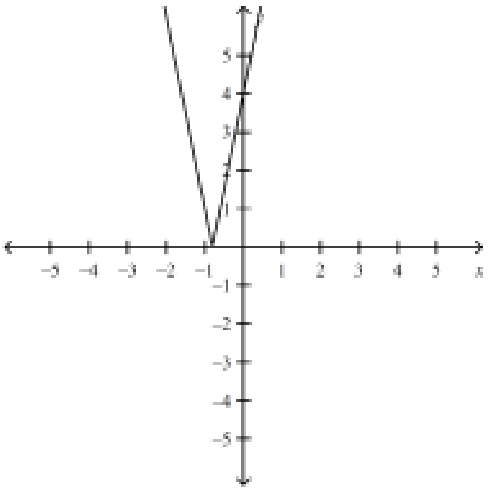


d.

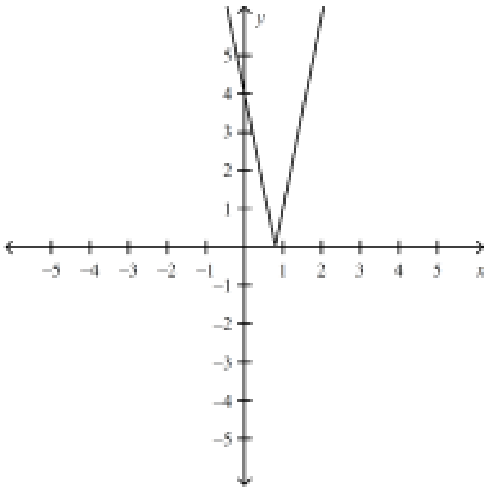


____ 34. Graph $f(x) = |5x - 4|$.

a.



c.



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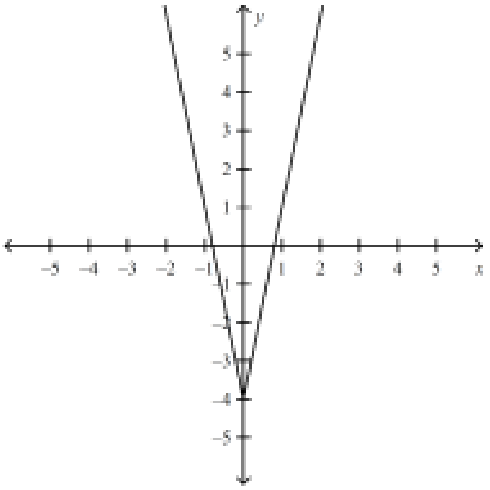
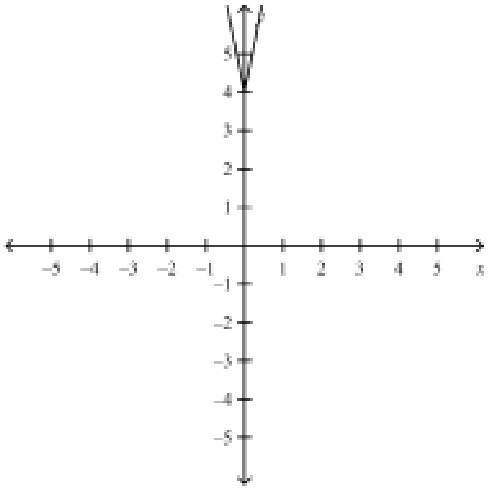


d.



____ 35. Which of the following statements is FALSE?

a. Absolute value means the opposite of the number.

b. Absolute value means the distance from zero.

c. Absolute value graphs are always V shaped.

d. Absolute value is always positive.

Algebra 1 Mid-term 2012 Practice
Answer Section

MULTIPLE CHOICE

1. ANS: B OBJ: 6-1.1 Solve linear inequalities by using addition.
2. ANS: B OBJ: 6-1.1 Solve linear inequalities by using addition.
3. ANS: A OBJ: 6-2.1 Solve linear inequalities by using multiplication.
4. ANS: B OBJ: 6-2.1 Solve linear inequalities by using multiplication.
5. ANS: A OBJ: 6-2.2 Solve linear inequalities by using division.
6. ANS: D OBJ: 6-2.2 Solve linear inequalities by using division.
7. ANS: A OBJ: 6-3.1 Solve linear inequalities with integers involving more than one operation.
8. ANS: A OBJ: 6-7.1 Solve systems of inequalities by graphing.
9. ANS: C OBJ: 6-7.1 Solve systems of inequalities by graphing.
10. ANS: B OBJ: 6-7.2 Solve real-world problems involving systems of inequalities.
11. ANS: D OBJ: 5-1.2 Solve systems of equations by graphing.
12. ANS: C OBJ: 5-1.2 Solve systems of equations by graphing.
13. ANS: B OBJ: 5-1.2 Solve systems of equations by graphing.
14. ANS: B OBJ: 5-2.1 Solve systems of equations by using substitution.
15. ANS: C OBJ: 5-2.1 Solve systems of equations by using substitution.
16. ANS: B OBJ: 5-2.1 Solve systems of equations by using substitution.
17. ANS: D OBJ: 5-2.1 Solve systems of equations by using substitution.
18. ANS: C OBJ: 5-3.1 Solve systems of equations by using elimination with addition.
19. ANS: C OBJ: 5-3.1 Solve systems of equations by using elimination with addition.
20. ANS: D OBJ: 5-4.1 Solve systems of equations by using elimination with multiplication.
21. ANS: C OBJ: 5-5.1 Determine the best method for solving systems of equations.
22. ANS: A OBJ: 5-5.1 Determine the best method for solving systems of equations.
23. ANS: A
    OBJ: 5-1.1 Determine whether a system of equations has no, one, or infinitely many solutions.
24. ANS: C
    OBJ: 5-1.1 Determine whether a system of equations has no, one, or infinitely many solutions.
25. ANS: D
    OBJ: 5-1.1 Determine whether a system of equations has no, one, or infinitely many solutions.
26. ANS: C OBJ: 6-6.1 Solve absolute value inequalities.
27. ANS: D OBJ: 6-6.1 Solve absolute value inequalities.
28. ANS: A OBJ: 6-6.1 Solve absolute value inequalities.
29. ANS: C OBJ: 6-6.1 Solve absolute value inequalities.
30. ANS: D OBJ: 6-5.2 Graph absolute value functions.
31. ANS: A OBJ: 6-5.2 Graph absolute value functions.
32. ANS: B OBJ: 6-5.2 Graph absolute value functions.
33. ANS: D OBJ: 6-5.2 Graph absolute value functions.
34. ANS: C OBJ: 6-5.2 Graph absolute value functions.
35. ANS: A