

<p>1. <math>4k - 10 = 26</math></p>	<p>2. <math>\frac{a}{2} + 9 = 6</math></p>	<p>1. <input type="radio"/> 0 <input type="radio"/> 1 <input type="radio"/> 2</p> <p>2. <input type="radio"/> 0 <input type="radio"/> 1 <input type="radio"/> 2</p>
<p>3. <math>6 + 2(2 + n) = 13 + 2n</math></p>	<p>4. <math>61 = -3a + 8(6a + 2)</math></p>	<p>3. <input type="radio"/> 0 <input type="radio"/> 1 <input type="radio"/> 2 <input type="radio"/> 3</p> <p>4. <input type="radio"/> 0 <input type="radio"/> 1 <input type="radio"/> 2 <input type="radio"/> 3 <input type="radio"/> 4</p>
<p>5. <math>-4(1 - 7x) = 2(8x - 8)</math></p>		<p>5. <input type="radio"/> 0 <input type="radio"/> 1 <input type="radio"/> 2 <input type="radio"/> 3 <input type="radio"/> 4</p>

For questions 1-5, solve each equation. Show ALL work for full credit  
 For problems 6 and 7, solve AND graph each inequality. Show ALL work

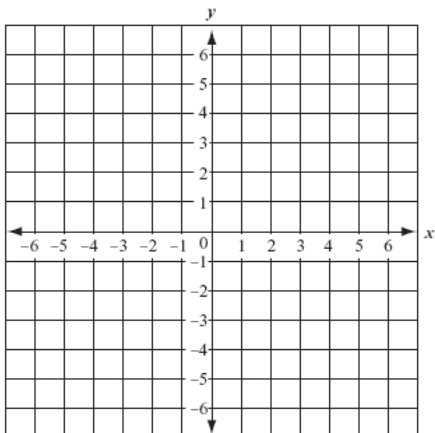
<p>6-7. <math>9 &gt; n + 2</math></p> <p style="text-align: center;">←————→</p>	<p>8-9. <math>2x + 3 - 7x \leq -22</math></p> <p style="text-align: center;">←————→</p>	<p>6. <input type="radio"/> 0</p> <p>7. <input type="radio"/> 0</p> <p>8. <input type="radio"/> 0 <input type="radio"/> 1 <input type="radio"/> 2 <input type="radio"/> 3</p> <p>9. <input type="radio"/> 0</p>
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Graph the system of equations. Then, determine if the system has one solution, no solution, or infinitely many solutions. If there is one solution, name it.

1.  $y = -2x + 4$

$y = 3x - 6$

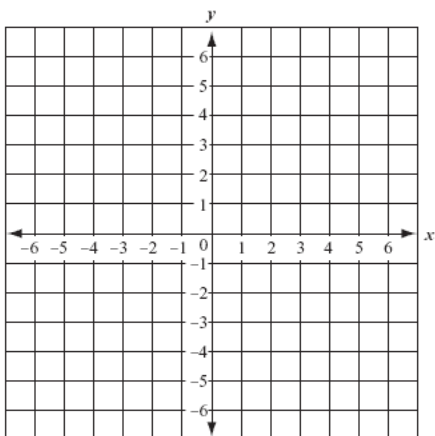


1. \_\_\_\_\_

 0    1    2    3

2.  $4x - 2y = 6$

$-2x + y = 1$

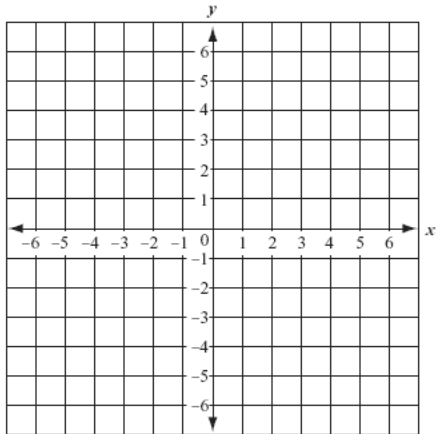


2. \_\_\_\_\_

 0    1    2    3    4    5

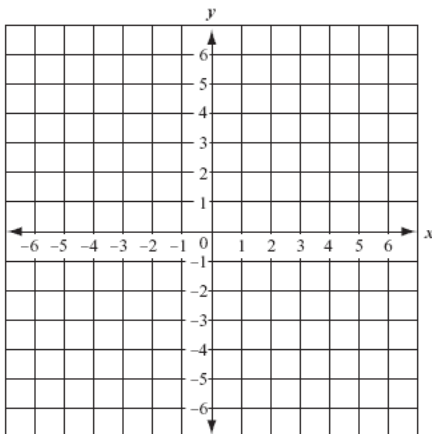

**Graph the linear inequality**

3.  $2x + y < -3$

3.  0  1  2  3  4**Graph the system of inequalities**

4.  $y > \frac{1}{2}x + 1$

$y \leq -x + 3$

4.  0  1  2  3  4  5

Find the x-intercept and y-intercept of the graph of each equation. **DO NOT GRAPH!!!**

1-2.  $6x - 4y = 12$

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

1. x-intercept: \_\_\_\_\_ ①

3. x-intercept: \_\_\_\_\_ ①

2. y-intercept: \_\_\_\_\_ ①

4. y-intercept: \_\_\_\_\_ ①

Find the slope of the line that passes through the points.

5. (4, 2) and (3, 4)

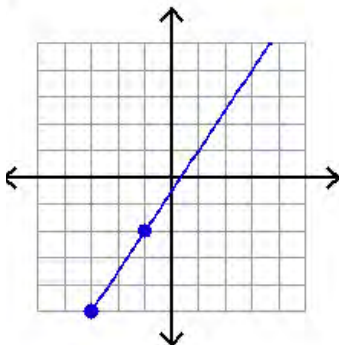
6. (5, 1) and (5, -2)

Slope: \_\_\_\_\_ ① ① ② ③

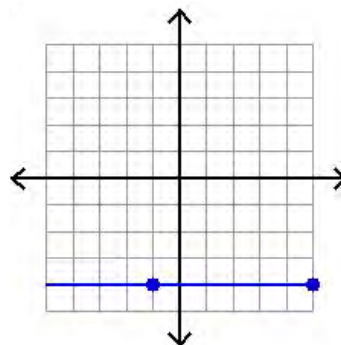
Slope: \_\_\_\_\_ ① ① ② ③

Find the slope of the given graphs.

7. Slope: \_\_\_\_\_ ① ① ②



8. Slope: \_\_\_\_\_ ① ① ②



Identify the slope and y-intercept of the line with the given equation.

9-10.  $y = 8x - 3$

11-13.  $2x + 9y = 9$

11. Slope-Intercept Form \_\_\_\_\_ ① ① ②

9. Slope: \_\_\_\_\_ ①

12. Slope: \_\_\_\_\_ ①

10. y-intercept: \_\_\_\_\_ ①

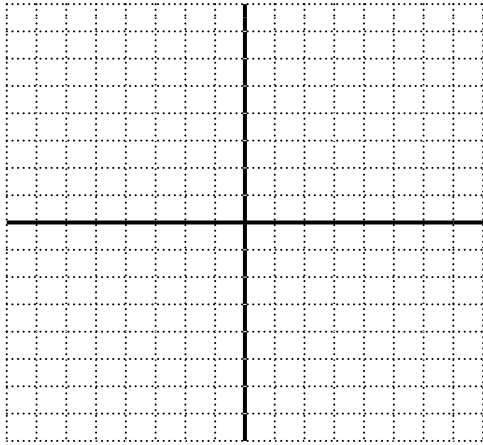
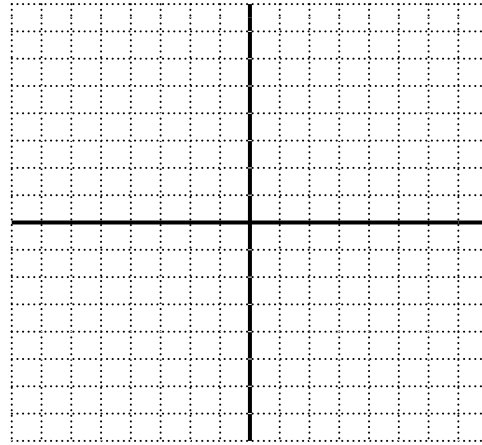
13. y-intercept: \_\_\_\_\_ ①



Graph each equation and find the domain, range, and end behaviors.

14-18.  $y = 5x + 2$

19-23.  $y = -\frac{1}{2}x - 3$

14. Graph  0  1  219. Graph  0  1  215. Domain: \_\_\_\_\_  020. Domain: \_\_\_\_\_  016. Range: \_\_\_\_\_  021. Range: \_\_\_\_\_  0

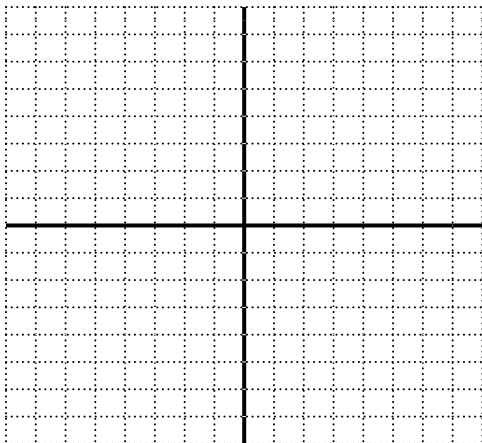
End Behavior

End Behavior

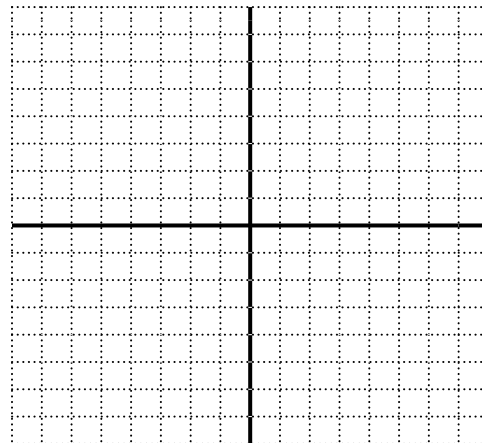
17.  $x \rightarrow -\infty, y \rightarrow$  \_\_\_\_\_  022.  $x \rightarrow -\infty, y \rightarrow$  \_\_\_\_\_  018.  $x \rightarrow \infty, y \rightarrow$  \_\_\_\_\_  023.  $x \rightarrow \infty, y \rightarrow$  \_\_\_\_\_  0

Graph each equation below.

24.  $2x + y = -6$   0  1  2  3



25.  $x = 4$   0



**Determine whether the equation represents a direct variation.**

26.  $y = 4x$

27.  $y = -3x + 9$

Direct Variation (circle answer) Direct Variation (circle answer) 

YES NO

YES NO

**MULTIPLE CHOICE Circle the correct answer. (1 point each)**

28. The slope of the line that passes through the points  $(-2, 4)$  and  $(-3, 7)$  is     ?

- (A) negative  
 (B) positive  
 (C) undefined  
 (D) zero

29. What is the value for  $y$  for the line that has a slope of  $-\frac{3}{2}$  and passes through the points  $(3, 5)$  and  $(7, y)$ ?

- (A)  $-11$   
 (B)  $-10$   
 (C)  $-1$   
 (D)  $20$

30. If the variables  $x$  and  $y$  represent a direct variation and  $y = 5$  when  $x = -10$ , which equation correctly represents this direct variation?

- (A)  $y = 5x$   
 (B)  $y = -10x$   
 (C)  $y = -2x$   
 (D)  $y = -\frac{1}{2}x$

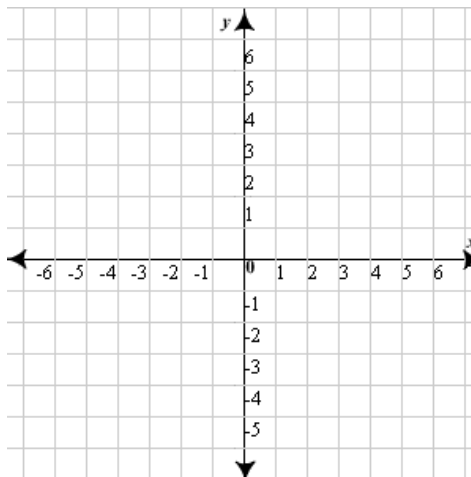
31. What is the slope of the line with the equation  $3x - 5y = 2$ ?

- (A)  $-\frac{3}{5}$   
 (B)  $\frac{1}{5}$   
 (C)  $\frac{5}{3}$   
 (D)  $\frac{3}{5}$



For questions 1-5, identify the quadrant or axis the points lie on. Then graph and label the points

1. A: (-4, 6) _____
2. B: (0, -3) _____
3. C: (1, -1) _____
4. D: (5, 0) _____
5. E: (-2, -4) _____



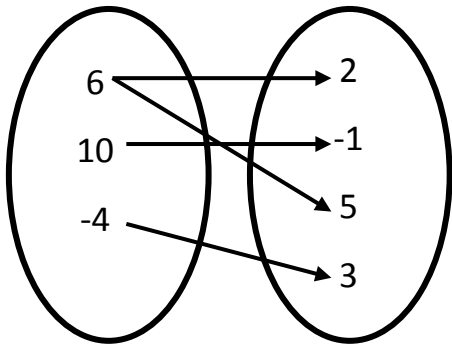
1. <input type="radio"/> 0 <input type="radio"/> 1 <input type="radio"/> 2
2. <input type="radio"/> 0 <input type="radio"/> 1 <input type="radio"/> 2
3. <input type="radio"/> 0 <input type="radio"/> 1 <input type="radio"/> 2
4. <input type="radio"/> 0 <input type="radio"/> 1 <input type="radio"/> 2
5. <input type="radio"/> 0 <input type="radio"/> 1 <input type="radio"/> 2

Use the functions below for questions 6-11 and evaluate at the given value.

$f(x) = -2x + 3$        $g(x) = 4^x$        $h(x) = x^2 + 4$

6. $g(3) =$	7. $h(-2) =$	6. <input type="radio"/> 0 <input type="radio"/> 1 <input type="radio"/> 2
		7. <input type="radio"/> 0 <input type="radio"/> 1 <input type="radio"/> 2
8. $f(9) =$	9. $h(1) - 3 =$	8. <input type="radio"/> 0 <input type="radio"/> 1 <input type="radio"/> 2
		9. <input type="radio"/> 0 <input type="radio"/> 1 <input type="radio"/> 2 <input type="radio"/> 3
10. $f(3a) =$	11. $f(2y - 1) =$	10. <input type="radio"/> 0 <input type="radio"/> 1 <input type="radio"/> 2
		11. <input type="radio"/> 0 <input type="radio"/> 1 <input type="radio"/> 2 <input type="radio"/> 3





12. Does this mapping represent a function? Why?	12. <input type="radio"/> 0 <input type="radio"/> 1 <input type="radio"/> 2
13. What is the domain of this relation?	13. <input type="radio"/> 0 <input type="radio"/> 1
14. What is the range of this relation?	14. <input type="radio"/> 0 <input type="radio"/> 1
15. Write the inverse of this relation	15. <input type="radio"/> 0 <input type="radio"/> 1

x	y
-2	5
0	6
2	5
4	3
6	-1

16. Does this mapping represent a function? Why?	16. <input type="radio"/> 0 <input type="radio"/> 1 <input type="radio"/> 2
17. What is the domain of this relation?	17. <input type="radio"/> 0 <input type="radio"/> 1
18. What is the range of this relation?	18. <input type="radio"/> 0 <input type="radio"/> 1
19. Write the inverse of this relation	19. <input type="radio"/> 0 <input type="radio"/> 1





Solve each equation below for the given variable.

1)  $\frac{x}{17} = -29$

 0  1

2)  $r - (-6) = 1$

 0  1

3)  $-12 = 17 - a$

 0  1  2

4)  $-n - n = -8$

 0  1  2

5)  $-4 = 6k - 8k$

 0  1  2

6)  $x + 2x = -16 + 5x$

 0  1  2  3

7)  $3x - 4x + 5 = -x + 9$

 0  1  2

8)  $-2 - 6k - 7k = -2 - 4k$

 0  1  2  3  4

9)  $8n + 36 = 6(n + 8)$

 0  1  2  3  4

10)  $-4(6x - 1) = 4 - 4x$

 0  1  2  3  4

11)  $8(p + 7) = -2(-7p - 7)$

 0  1  2  3  4

12)  $2(4x - 6) = 4(2x - 3)$

 0  1  2  3  4

13)  $24 - 7r = -3(1 - 5r) + 5r$

 0  1  2  3  4  5

**It costs \$30 a year to join Durak's House of Muscle. Each time a member enters, they must pay a fee of \$2. When a nonmember shows up, they pay a fee of \$5. After how many visits will the member's costs equal the nonmember's cost.**

14) Variable \_\_\_\_\_

 0  1

15) Equation \_\_\_\_\_

 0  1

16) Answer \_\_\_\_\_

 0  1  2

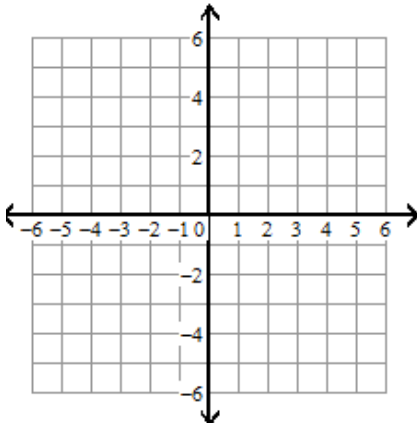
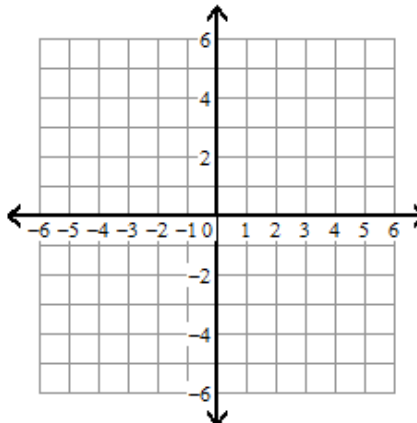
Solve the compound inequality. Do NOT graph. Show all work.

10. $12 < 4x + 4 \leq 16$	10. <input type="radio"/> 0 <input type="radio"/> 1 <input type="radio"/> 2 <input type="radio"/> 3
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Establish a variable, write an equation, and solve the word problem below. Be sure to label your answer.

<p>A contractor purchases ceramic tile to remodel a kitchen floor. Each tile costs \$4, and the adhesive and grouting material costs \$17.82. If the contractor is charged a total of \$545.82, how many ceramic tiles did he purchase?</p> <p>11. Variable: _____</p> <p>12. Equation: _____</p> <p>13. Solution: _____</p>	11. <input type="radio"/> 12. <input type="radio"/> 13. <input type="radio"/>
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Sketch the graph of each line below

14. $y = 2x + 3$ 	15. $x + 4y = 20$ 	14. <input type="radio"/> 0 <input type="radio"/> 1 <input type="radio"/> 2 15. <input type="radio"/> 0 <input type="radio"/> 1 <input type="radio"/> 2 <input type="radio"/> 3
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Find the slope of the line through each pair of points

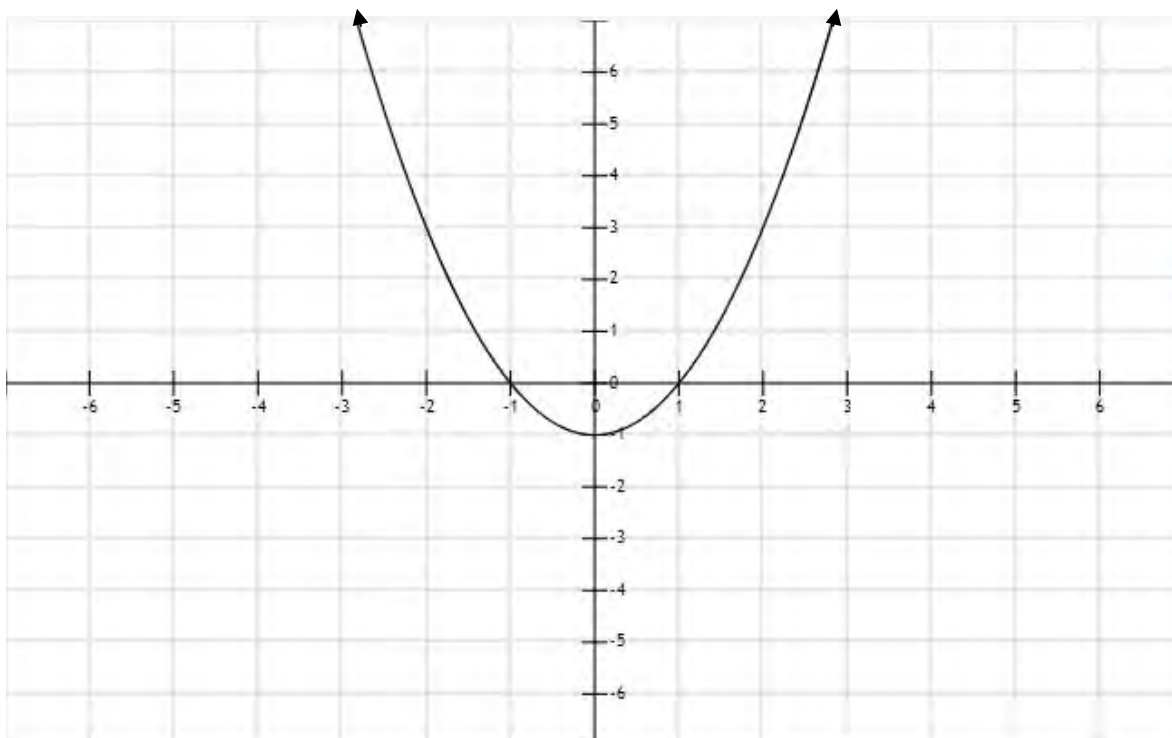
16. $(3, -12)$ and $(-20, -12)$	17. $(-9, 14)$ and $(-17, 16)$	16. <input type="radio"/> 0 <input type="radio"/> 1 <input type="radio"/> 2 17. <input type="radio"/> 0 <input type="radio"/> 1 <input type="radio"/> 2
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For problems 16-18, write the slope-intercept form of the equation of the line with the given characteristics

18. Slope = $\frac{1}{2}$ y-intercept = $-5$	18. <input type="radio"/> 0
19. Slope = $2$ through the point $(3, 4)$	19. <input type="radio"/> 0 <input type="radio"/> 1 <input type="radio"/> 2 <input type="radio"/> 3
20. Through the points $(-5, -3)$ and $(-1, 1)$	20. <input type="radio"/> 0 <input type="radio"/> 1 <input type="radio"/> 2 <input type="radio"/> 3 <input type="radio"/> 4



Use the graph below to answer questions 21-26.



21. Domain: \_\_\_\_\_

21.  0

22. Range: \_\_\_\_\_

22.  0

23.  $x \rightarrow -\infty, f(x) \rightarrow$  \_\_\_\_\_

23.  0

24.  $x \rightarrow \infty, f(x) \rightarrow$  \_\_\_\_\_

24.  0

25. x-intercept(s): \_\_\_\_\_

25.  0  1  2

26. y-intercept(s): \_\_\_\_\_

26.  0

