

**Additional Exercises 3.6**  
**Form I**  
Linear Inequalities in Two Variables

Determine whether the ordered pair is a solution of the given inequality.

1.  $x - y \leq 8$ : (2, 1)

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

2.  $x - y \leq -2$ : (1, 1)

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

3.  $2x + 3y \leq -6$ : (-3, 0)

3. \_\_\_\_\_

4.  $x + 2y > -3$ : (-3, 2)

4. \_\_\_\_\_

5.  $x + 2y > -6$ : (6, -5)

5. \_\_\_\_\_

6.  $y > -x + 2$ : (-3, 8)

6. \_\_\_\_\_

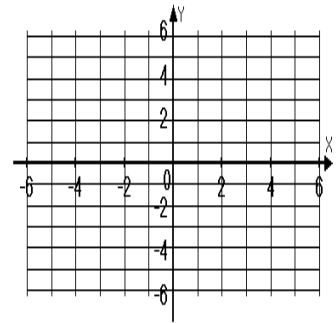
7.  $x \leq y - 7$ : (5, 11)

7. \_\_\_\_\_

Graph the linear inequality.

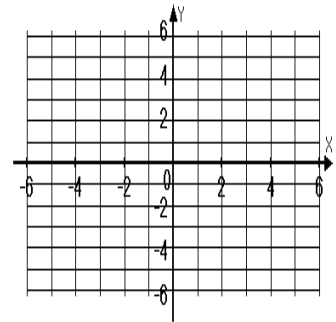
8.  $3x + y \leq -4$

8.



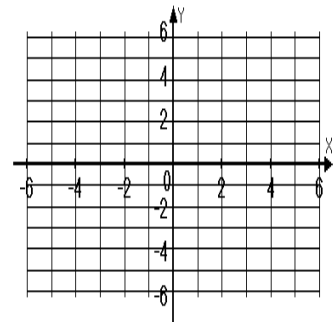
9.  $x + y < 2$

9.



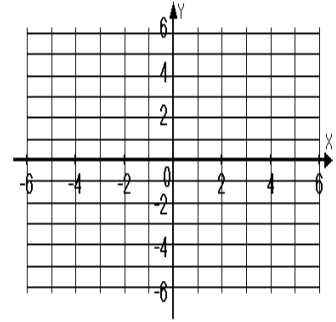
10.  $2x + 3y \leq 6$

10.



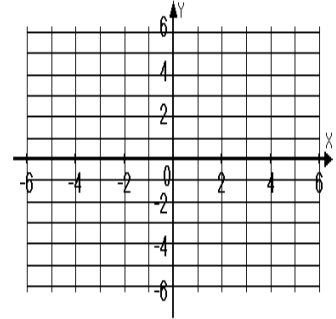
11.  $-2x - 5y \leq 10$

11.



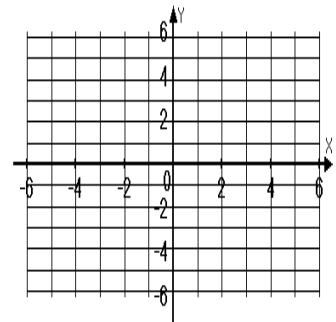
12.  $x > -2$

12.



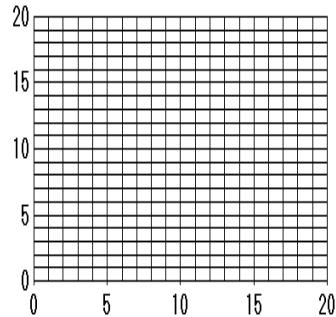
13.  $y \leq 4$

13.



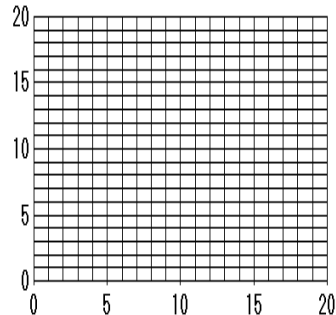
14. A furniture company manufactures chairs and tables. Each chair requires 3 labor-hours to manufacture. Each table requires 4 labor-hours to manufacture. The company has 36 labor-hours available per day. Graph an inequality that describes when the labor-hours for making  $x$  chairs and  $y$  tables will not exceed the number of labor-hours the company has available.

14.



15. A man has \$9.00 and wants to buy pretzels and soda from a vendor. The pretzels cost \$0.75 per bag and the sodas cost \$1.00 per cup. Graph an inequality that describes when the cost of  $x$  bags of pretzels and  $y$  cups of soda does not exceed the amount of money the man has to spend.

15.



**Additional Exercises 3.6**  
**Form II**  
Linear Inequalities in Two Variables

Determine whether the ordered pair is a solution of the given inequality.

1.  $x - y \leq 8$ : (2, -6)

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

2.  $x - y \leq -2$ : (3, 4)

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

3.  $2x + 3y \leq -6$ : (2, -5)

3. \_\_\_\_\_

4.  $x + 2y > -3$ : (1, 1)

4. \_\_\_\_\_

5.  $x + 2y > -6$ : (-3, -3)

5. \_\_\_\_\_

6.  $y > -x + 2$ : (5, 3)

6. \_\_\_\_\_

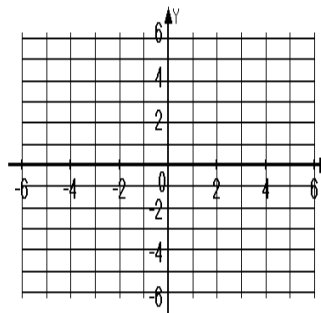
7.  $x \leq y - 7$ : (1, 8)

7. \_\_\_\_\_

Graph the linear inequality.

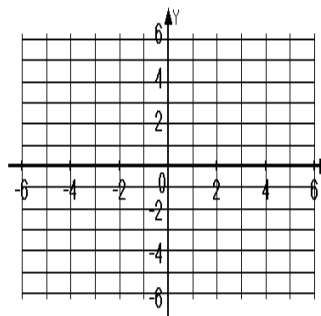
8.  $2x + 3y > 6$

8.



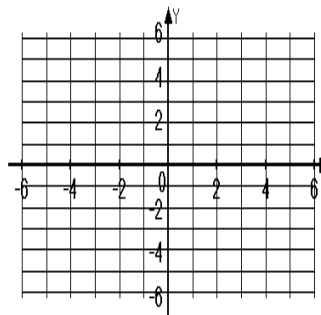
9.  $x - 2y \leq 4$

9.



10.  $2x - 4y > -8$

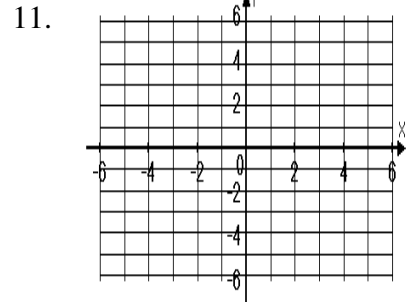
10.



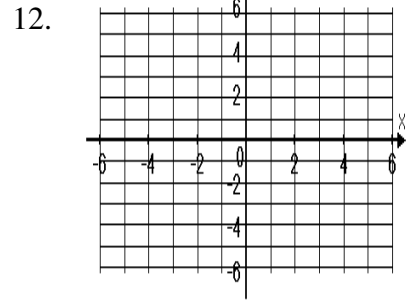
Name \_\_\_\_\_

Date \_\_\_\_\_

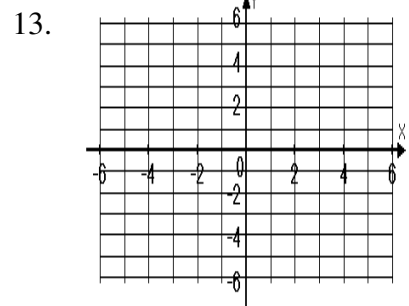
11.  $2x - 3y \leq 6$



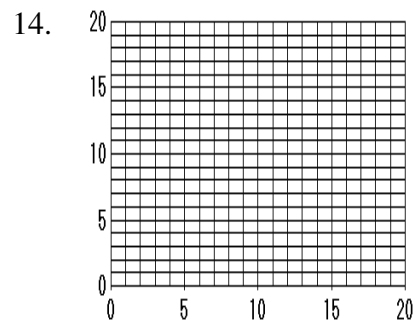
12.  $x > 3$



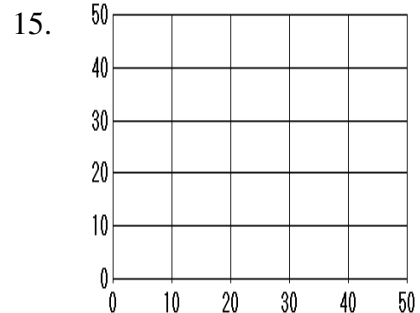
13.  $y > -5$



14. A delivery company has two sizes of boxes to ship. Their small box has a volume of 7 cubic feet and their large box has a volume of 14 cubic feet. Each of the company's trucks can carry 140 cubic feet of cargo. Graph an inequality that describes when the volumes of  $x$  small boxes and  $y$  large does not exceed the volume of a truck..



15. A woman works out by running and swimming. When she runs, she burns 8 calories per minute. When she swims, she burns 10 calories per minute. She wants to burn at least 480 calories in her workout. Graph an inequality that describes when  $x$  minutes running and  $y$  minutes swimming will burn at least as many calories as the woman wants to burn.



**Additional Exercises 3.6**  
**Form III**  
Linear Inequalities in Two Variables

Determine whether the ordered pair is a solution of the given equality.

1.  $x - y \leq 8$ : (10, -1)

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

2.  $x - y \leq -2$ : (3, 4)

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

3.  $2x + 3y \leq -6$ : (-5, 0)

3. \_\_\_\_\_

4.  $x + 2y > -3$ : (4, 1)

4. \_\_\_\_\_

5.  $x + 2y > -6$ : (-3, -1)

5. \_\_\_\_\_

6.  $y > -x + 2$ : (1, 4)

6. \_\_\_\_\_

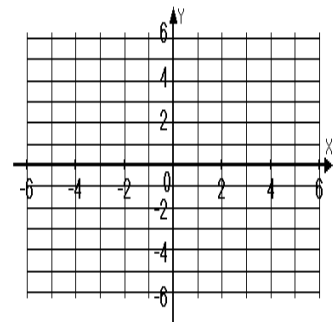
7.  $x \leq y - 7$ : (3, 1)

7. \_\_\_\_\_

Graph the linear inequality.

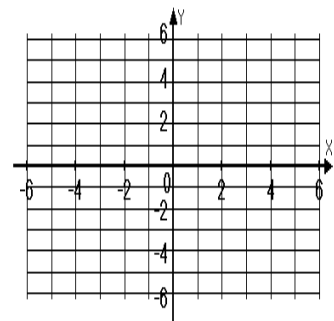
8.  $2x - 5y \leq 10$

8.



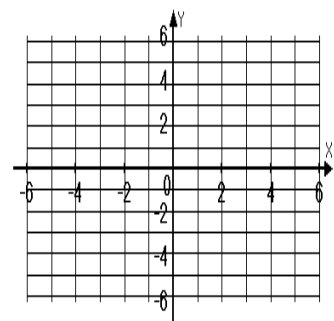
9.  $3x + 4y > 8$

9.



10.  $3x - 5y > 15$

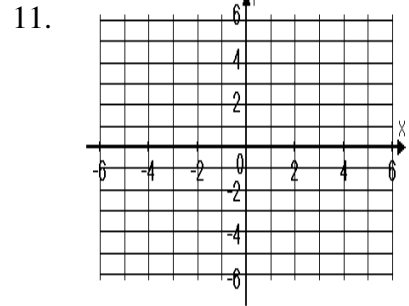
10.



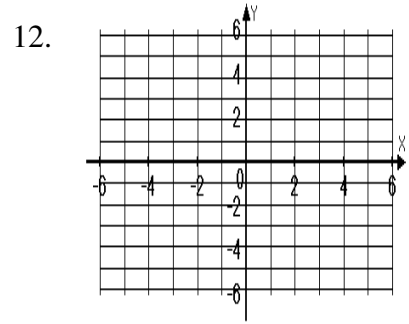
Name \_\_\_\_\_

Date \_\_\_\_\_

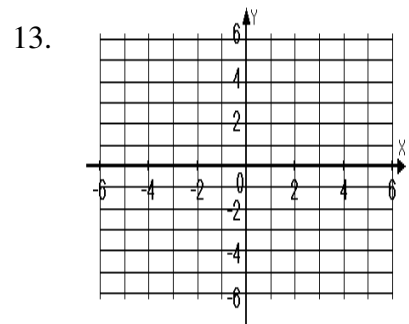
11.  $2x + 4y \leq -16$



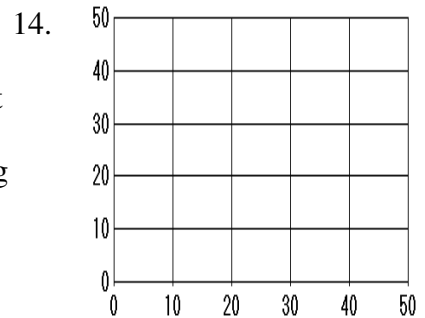
12.  $x < -3$



13.  $y > 2$



14. A woman works out by running and swimming. When she runs she burns 7 calories per minute. When she swims, she burns 12 calories per minute. She wants to burn at least 420 calories in her workout. Graph an inequality that describes when  $x$  minutes running and  $y$  minutes swimming will burn at least as many calories as the woman wants to burn.



15. A certain nonprescription drug to treat cold symptoms is sold in bottles that contain 24 tablets. The directions state that the adult dosage is 3 tablets and the dosage for children is 2 tablets. Graph an inequality that describes when the tablets for  $x$  adult doses and  $y$  child doses exceed the number of tablets available in one bottle.

