

# 6-5

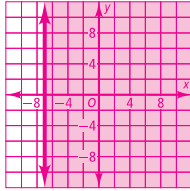
## Practice

Form K

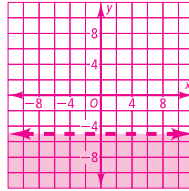
### Linear Inequalities

Graph each linear inequality.

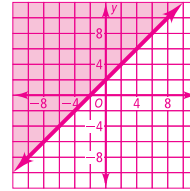
1.  $x \geq -7$



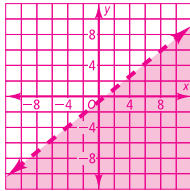
2.  $y < -5$



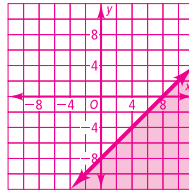
3.  $-x + y \geq 2$



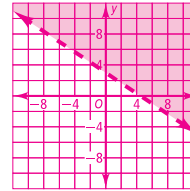
4.  $-4x + 5y < -3$



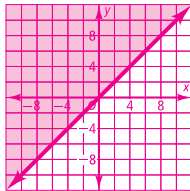
5.  $x - y \geq 8$



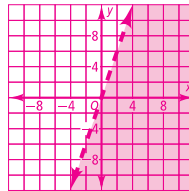
6.  $2x + 3y > 9$



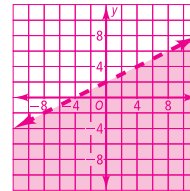
7.  $y \geq x$



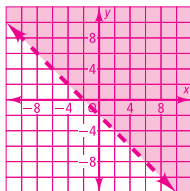
8.  $3x > y$



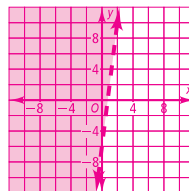
9.  $x - 2y > -4$



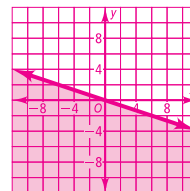
10.  $5x + 5y > -10$



11.  $4x - \frac{1}{2}y < 3$



12.  $x \leq -3y$



# 6-5

## Practice (continued)

Form K

### Linear Inequalities

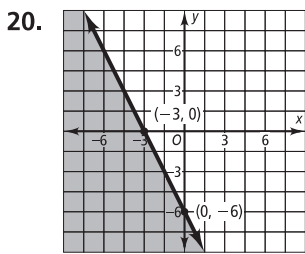
- 13. Writing** How can you check to see that you have shaded the correct half of the coordinate plane after graphing a linear inequality? Explain.

**Choose an ordered pair that is clearly in the shaded portion and substitute it into the inequality to see if the inequality is true for this ordered pair.**

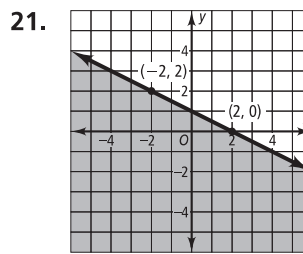
Determine whether the ordered pair is a solution of the linear inequality.

14.  $4x + 3y > -2$ ;  $(-3, -1)$  **no**                      15.  $x + y > -3$ ;  $(-2, 2)$  **yes**  
 16.  $y - 4x \leq 0$ ;  $(1, 4)$  **yes**                              17.  $2x - 4y > 5$ ;  $(5, -1)$  **yes**  
 18.  $y \leq 2x - 3$ ;  $(-1, -4)$  **no**                        19.  $y < -3x + 1$ ;  $(3, 5)$  **no**

Write a linear inequality that represents each graph.



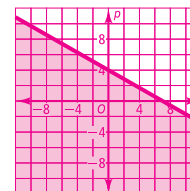
$y \leq -2x - 6$



$y \leq -\frac{1}{2}x + 1$

22. A friend has \$75 to buy some new shirts and pants. Each shirt  $s$  costs \$11. Each pair of pants  $p$  costs \$19.

a. Write and graph an inequality that shows how many shirts and pants your friend can buy.  **$11s + 19p \leq 75$**



b. Which side of the boundary line should you shade?  
**below the line**

c. What inequality symbol did you use? Explain.  
 **$\leq$  ; She can only spend \$75 or less.**

23. Admission to the movie theater costs \$7.50 for adults and \$3.50 for students. The theater must bring in at least \$200 per movie. Write an inequality for the number of tickets the theater needs to sell to make a profit. If the theater sells 15 adult tickets, how many student tickets do they need to sell to make a profit?  **$7.5a + 3.5s \geq 200$ ; 25**

24. Each child at the birthday party was given \$5 to spend at the arcade on games and rides. Each game costs \$0.25 and each ride costs \$0.50. Write an inequality for the number of games and rides a child can enjoy for \$5. What is the maximum number of games or rides each child can enjoy?  
 **$0.25g + 0.5r \leq 5$ ; 20 games or 10 rides**