

$$m = \frac{\text{rise}}{\text{run}} = \frac{\Delta y}{\Delta x}$$

Solid Line  
 $\geq$  &  $\leq$

Dashed-dotted line  
 $>$  &  $<$

Linear Inequalities LI10

# Graphing Two Variable Inequalities

Day 2 F.

$$y = mx + b$$

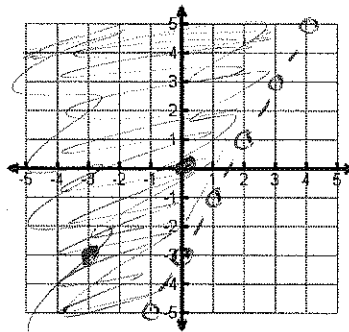
slope                  y-intercept

Name KEY  
 Date \_\_\_\_\_ Period \_\_\_\_\_

1. a. Use substitution to determine whether each given point is a solution to the inequality  $y > 2x - 3$ .

yes  $(0, 0)$   $0 > 2(0) - 3$   
 $0 > -3$       NO  $(2, 1)$   $1 > 2(2) - 3$   
 $1 > 1$

yes  $(-3, -3)$   $-3 > 2(-3) - 3$       NO  $(4, -1)$   $-1 > 2(4) - 3$   
 $-3 > -9$        $-1 > 5$



$m = 2$   
 $b = -3$

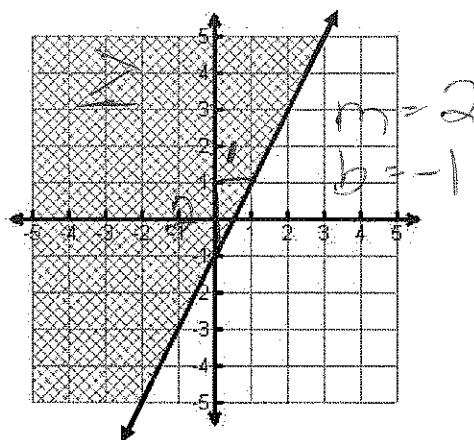
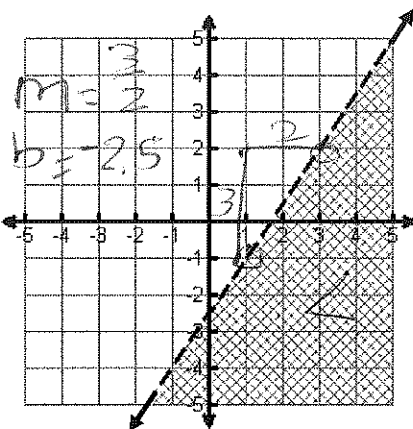
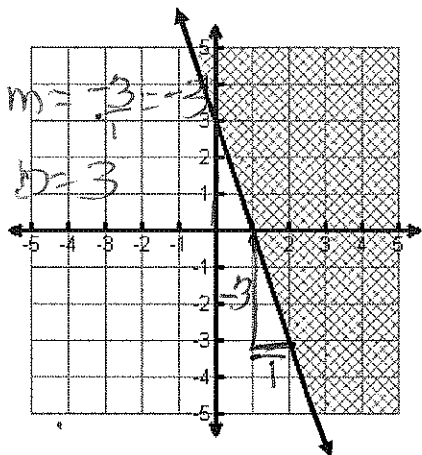
b. Graph a solid or dashed line based on the inequality. Use the solutions you found above to shade the graph.

Write an inequality for each graph.

2.  $y \geq -3x + 3$

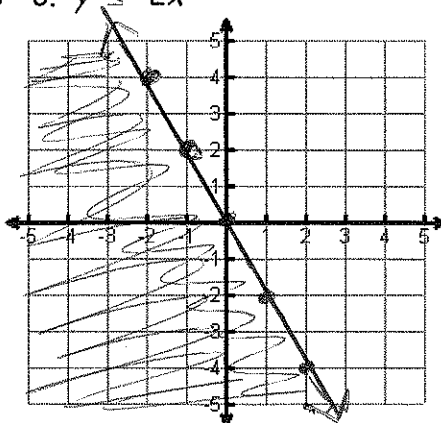
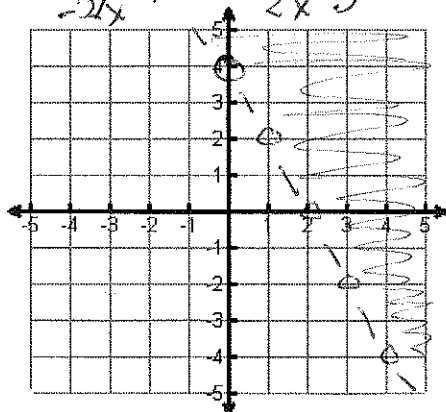
3.  $y < \frac{3}{2}x - 2.5$

4.  $y \geq 2x - 1$

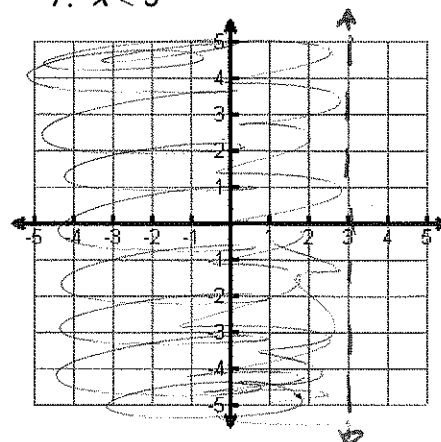


Graph each inequality on the coordinate plane.

5.  $2x + y > -4 - 2x$        $y > -2x + 4$



7.  $x < 3$



Linear Inequalities 9

Match the following equations and their graphs.

E 1.  $y < 2x + 3$

B 2.  $y > 2x + 3$

H 3.  $y \leq 2x - 3$

F 4.  $y \geq 2x - 3$

A 5.  $y < \frac{1}{2}x + 3$

D 6.  $y > \frac{1}{2}x + 3$

G 7.  $y \leq \frac{1}{2}x - 3$

C 8.  $y \geq \frac{1}{2}x - 3$

