

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

Solid Line
 \geq & \leq

Dashed-dotted line
 $>$ & $<$

Linear Inequalities LI10

Graphing Two Variable Inequalities

Day 2 Explore

Name KEY

Date _____

Period _____

$$y = mx + b$$

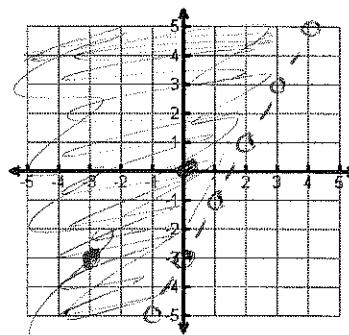
slope y-intercept

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) $-1 > 2(4) - 3$
 $-3 > -9$ $-1 > 5$



$m = 2$
 $b = -3$

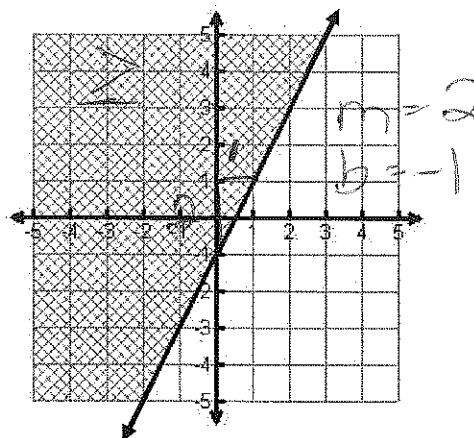
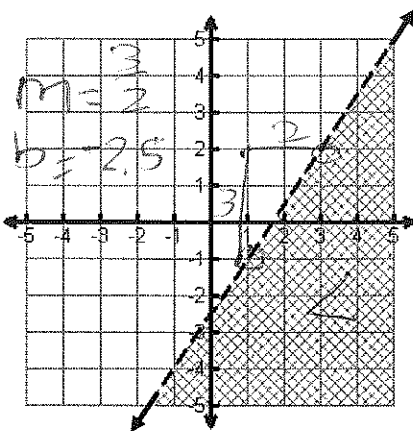
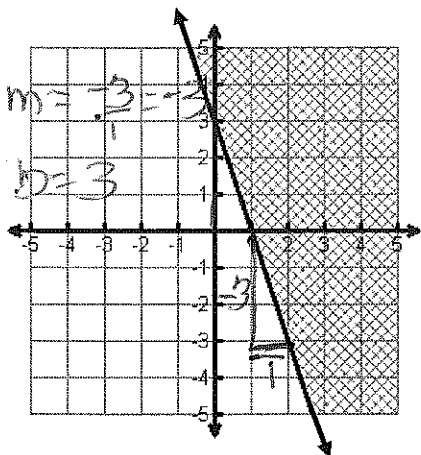
- b. Graph a solid or dashed line based on the inequality. Use the solutions you found above to shade the graph.

Write an inequality for each graph.

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

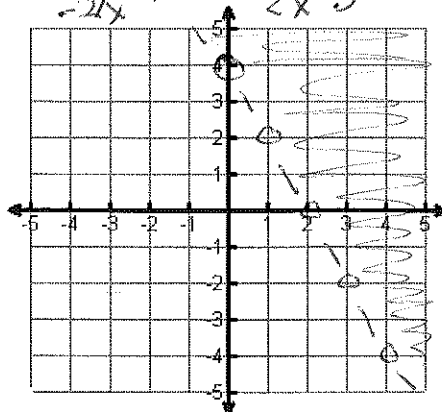
3. $y < \frac{3}{2}x - 2.5$

4. $y \geq 2x - 1$

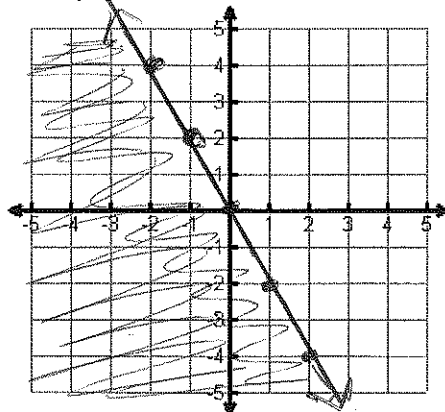


Graph each inequality on the coordinate plane.

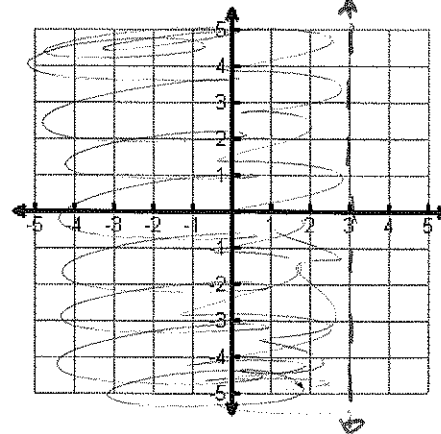
5. $2x + y > +4$ $-2x$ $y > -2x + 4$



6. $y \leq -2x$



7. $x < 3$



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

