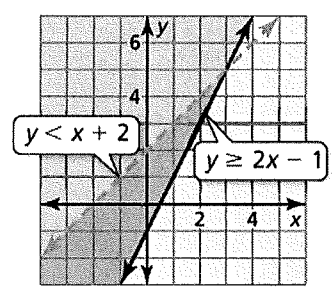


CW 5 Graphing a System of Linear Inequalities

Graphing a System of Linear Inequalities

Step 1 Graph each inequality in the same coordinate plane.

Step 2 Find the intersection of the half-planes that are solutions of the inequalities. This intersection is the graph of the system.



In Exercises 1–2, tell whether the ordered pair is a solution of the system of linear inequalities. Test the values for the x and y -coordinates in *both* inequalities.

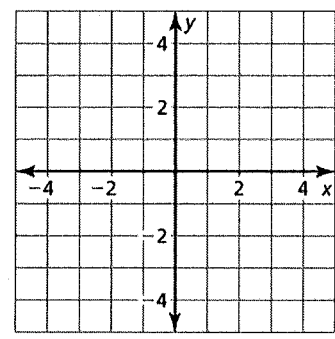
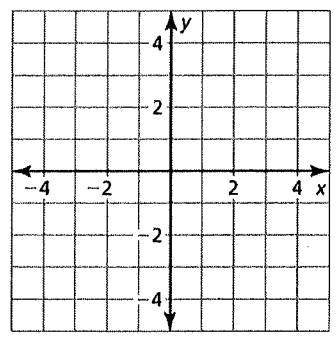
1. $(2, 3)$; $y \geq x + 4$
 $y \leq 2x + 4$

2. $(0, 4)$; $y \leq -x + 4$
 $y \geq 5x - 3$

In Exercises 3–6, graph the system of linear inequalities.

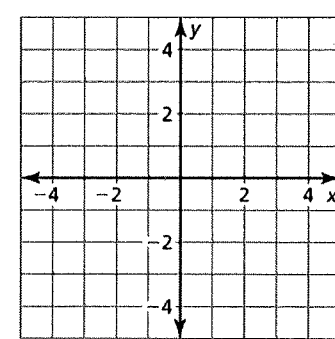
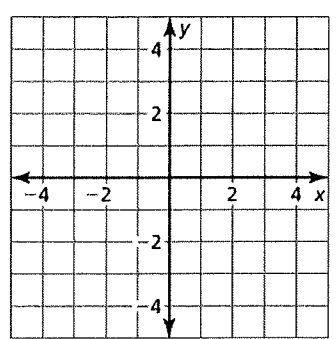
3. $y > -2$
 $y \leq 3x$

4. $y < 3$
 $x < 2$



5. $y \geq x - 2$
 $y < -x + 2$

6. $2x + 3y < 6$
 $y - 1 \geq -2x$



CW 5 Systems of Linear Inequalities

Write the slope-intercept form of the equation of each line.

1) $x + y = -1$

2) $x + 2y = -10$

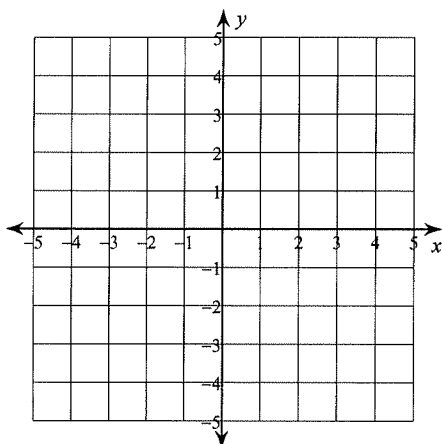
3) $x - y = -3$

4) $5x + 3y = -21$

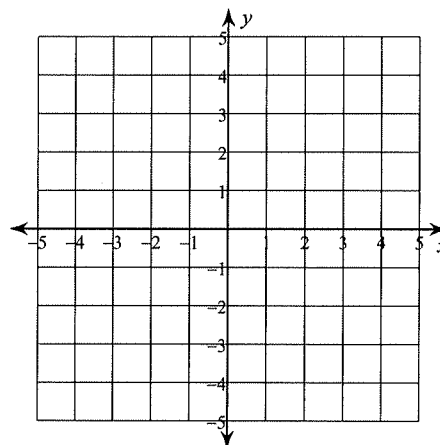
Sketch the solution to each system of inequalities.

5) $y \geq \frac{5}{2}x + 2$

$y > \frac{1}{2}x - 2$

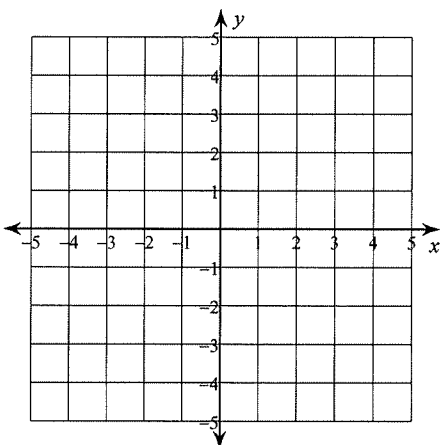


6) $y \geq x + 3$
 $x \leq -1$

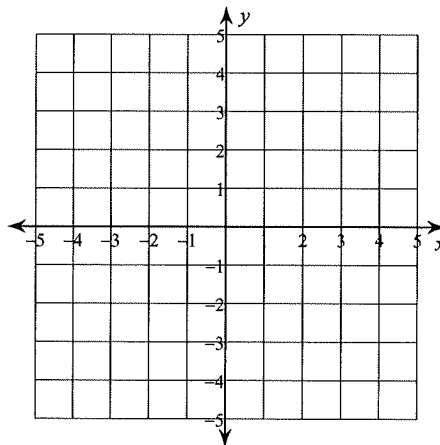


7) $y > 1$

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



8) $4x + y \geq -3$
 $x - y \geq -2$



CW 5 Systems of Linear Inequalities

Write the slope-intercept form of the equation of each line.

1) $x + y = -1$

$y = -x - 1$

2) $x + 2y = -10$

$y = -\frac{1}{2}x - 5$

3) $x - y = -3$

$y = x + 3$

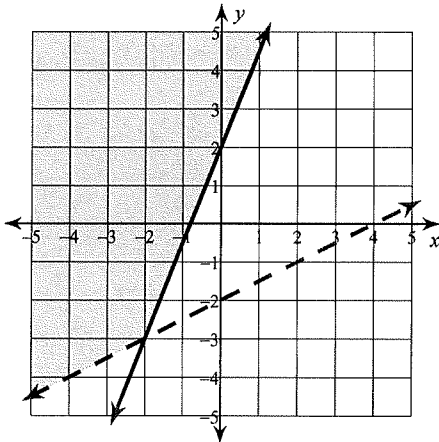
4) $5x + 3y = -21$

$y = -\frac{5}{3}x - 7$

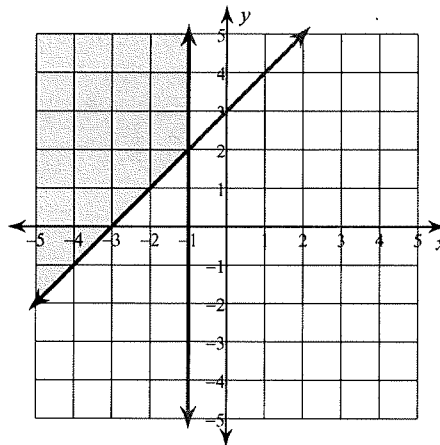
Sketch the solution to each system of inequalities.

5) $y \geq \frac{5}{2}x + 2$

$y > \frac{1}{2}x - 2$

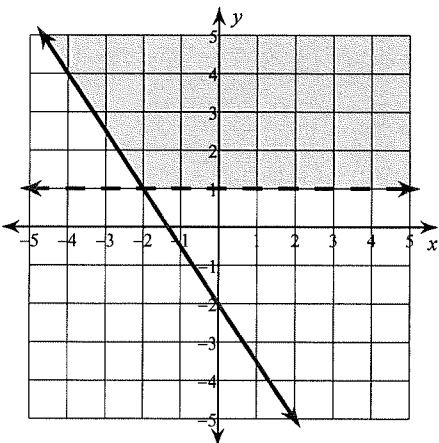


6) $y \geq x + 3$
 $x \leq -1$



7) $y > 1$

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



8) $4x + y \geq -3$
 $x - y \geq -2$

