

When graphing inequalities...

1. Put the equation in slope – intercept form ($y = mx + b$).
2. Plot the y-intercept (b) and then plot the slope (m).
Make sure to check if the slope is positive or negative.
3. Decide whether the line is going to be solid or dotted.

—————→ **Solid line:** \leq or \geq (inequality symbols **with** the equal to)

- - - - -→ **Dotted line:** $<$ or $>$ (inequality symbols **without** the equal to)

4. Then decide whether you shade above the line or below the line.

↑ **Above:** $>$ or \geq (greater than or greater than or equal to)

↓ **Below:** $<$ or \leq (less than or less than or equal to)

Graphing Equations -vs- Inequalities

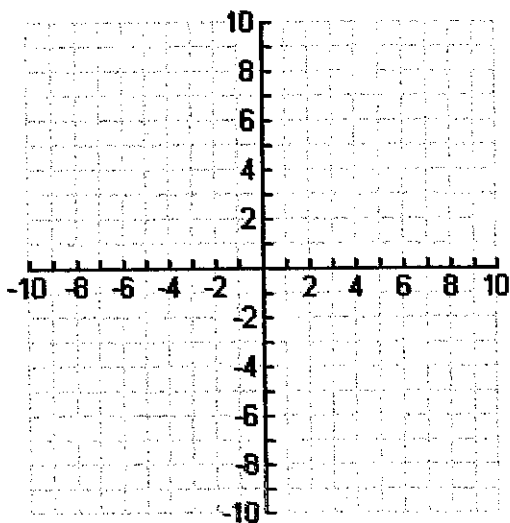
Graphing Equations

1. Put the equation in slope Intercept Form.
2. Identify the slope and the y-intercept.
3. Place your first point on the Y axis (this is b from the eq)
4. Count rise over run to get more Points.
5. Connect the dots to make a Line.

EXAMPLE:

GRAPH THE EQUATION

$$y = -4x - 3$$

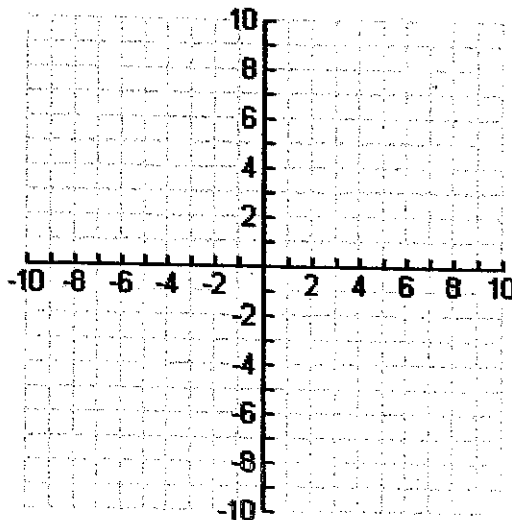


Graphing Inequalities

EXAMPLE:

GRAPH THE INEQUALITY

$$y < -4x - 3$$

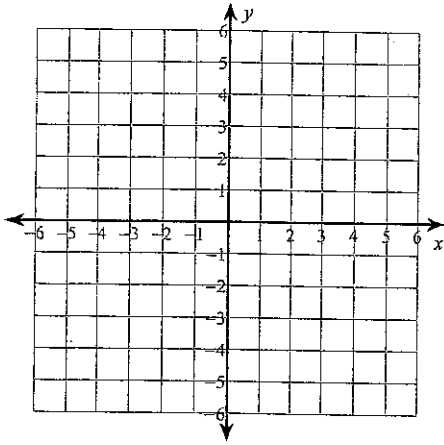


Graphing Linear Inequalities

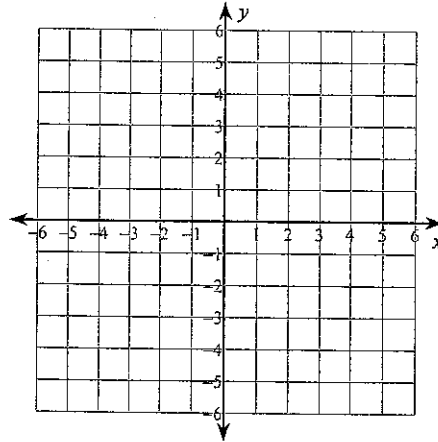
① Solid or dashed
② Shaded up or down

Sketch the graph of each linear inequality.

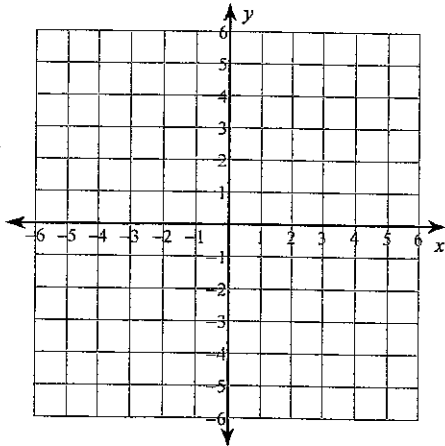
1) $y \geq -3x + 4$



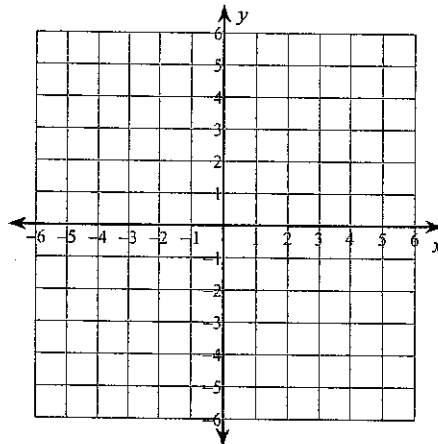
2) $y \leq \frac{3}{5}x - 5$



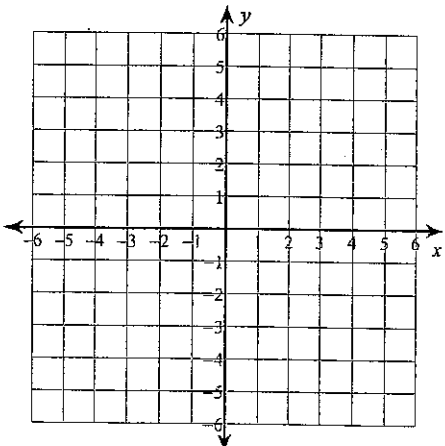
3) $y > -x - 5$



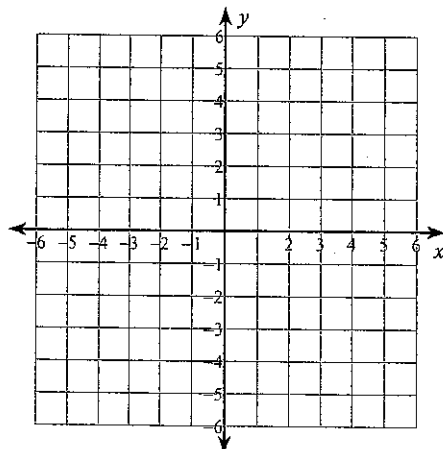
4) $y > -4$



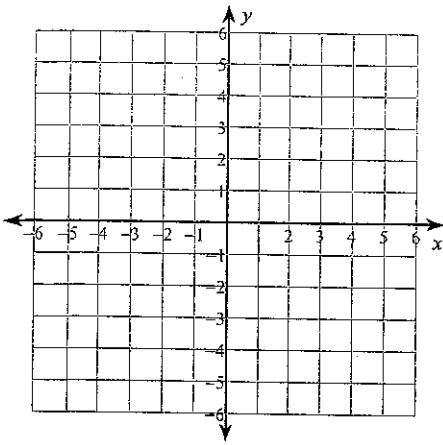
5) $y > 2x - 5$



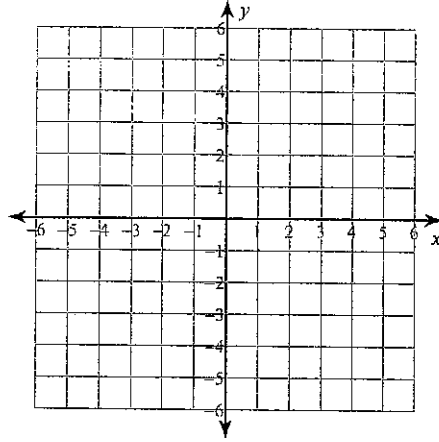
6) $y \geq \frac{7}{4}x + 2$



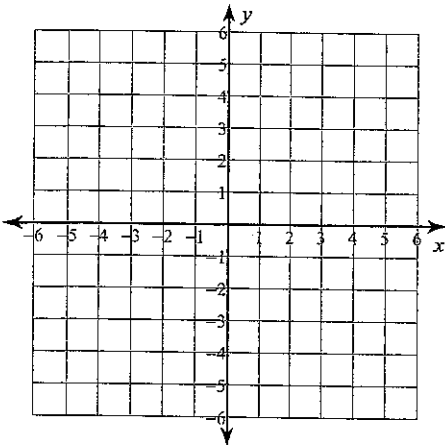
7) $x < -5$



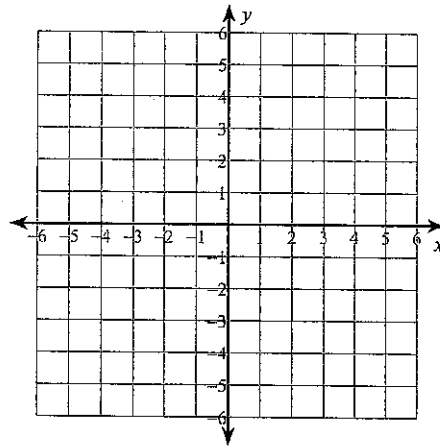
8) $y \leq \frac{4}{3}x - 4$



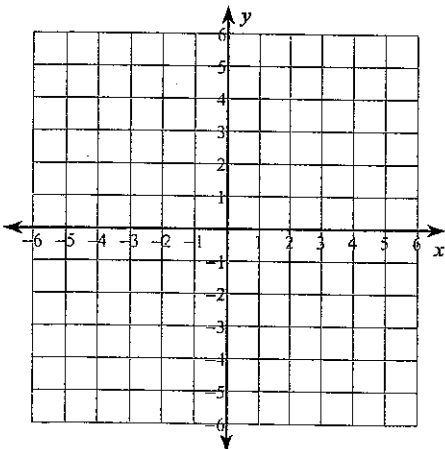
9) $3x - 2y < 10$



10) $5x - 3y \leq -15$



11) $y \geq 4$



12) $x - y > 2$

