7.2 – Graphing Linear Inequalities

To determine if a point is a solution of a linear inequality, plug the point in to the equation. If the resulting inequality is true, then the point is a solution.

Check whether the ordered pairs are solutions of $3x+2y\geq 2$.

1. $\left(0, 0\right)$ B. $\left(2, -1\right)$ C. $\left(-2, 4\right)$

To sketch the graph of a linear inequality:

1. Solve the inequality for $y$ and graph the corresponding linear equation. For a $<$ or $>$ statement, the corresponding line **is not** a part of the solution so it should be dashed. For a $\leq $ or $\geq $ statement, the corresponding line **is** a part of the solution so it should be solid.
2. Test a point to see if it is a solution of the inequality.
3. Show the solution to the inequality by shading the side of the line that contains the points that satisfy the inequality. If your test point was a solution, shade on that side. If it was not, shade on the other side.

Sketch the graph of the following linear inequalities.

1. $y>-2x+6$

2. $3x-2y>8$

3. $2x-3y\geq -6$

4. $x\geq -3$