

9.2 Systems of Equations & Inequalities in Two Variables

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Procedure for solving inequalities in two variables:

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- If possible, solve for y . Graph the curve described by the equation.
- If the form is $y \leq mx + b$ shade below the line
- If the form is $y \geq mx + b$ shade above the line
- Otherwise, use a test point to determine where to shade.
- Use a dotted line for a strict inequality!

Examples

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Graph the solution set to the inequality:

1. $y > 2x$

2. $2x + 3y \leq 6$

3. $2x^2 - y < 1$

4.
$$\begin{cases} x^2 + y \leq 4 \\ x^2 - y \leq 3 \end{cases}$$