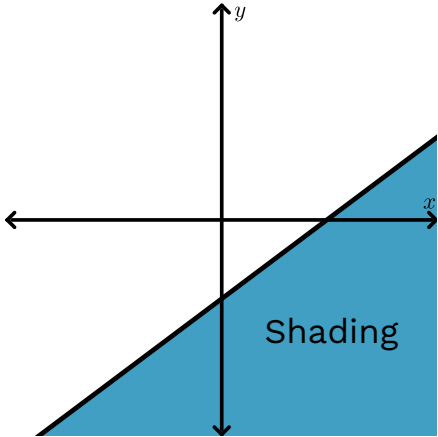
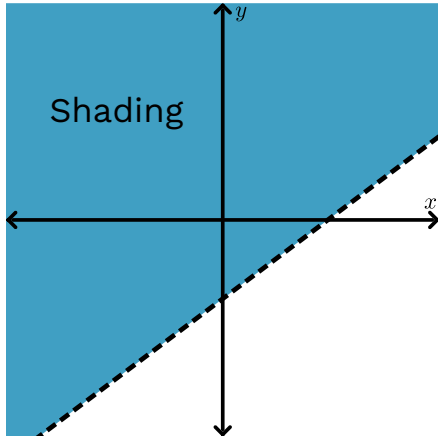
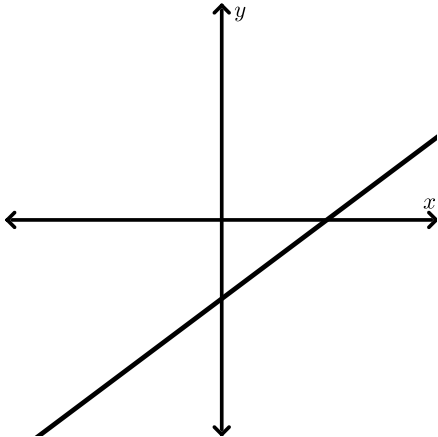


Shading (Linear Inequality)

Examples & Non-Examples

Example	Example	Non-Example
		

Definition

Shading for linear inequalities in the coordinate plane visually represents the solution set of the inequality. When graphing a linear inequality, the boundary line is drawn first, which corresponds to the equation obtained by replacing the inequality sign with an equals sign.

The shading indicates the region of the plane that satisfies the inequality. Here's how it works:

- **Above the line:** If the inequality is $ax + by > c$ or $ax + by \geq c$, when $b > 0$, the region above the boundary line is shaded. This indicates that all points in that region satisfy the inequality.
- **Below the line:** If the inequality is $ax + by < c$ or $ax + by \leq c$, when $b > 0$, the region below the boundary line is shaded. This shows that those points satisfy the inequality.

The type of boundary line used—solid or dashed—also affects the shading:

- **Solid line:** Used for inclusive inequalities (\leq or \geq), meaning points on the line are included in the solution set.
- **Dashed line:** Used for strict inequalities ($<$ or $>$), indicating that points on the line are not included.

In summary, shading visually indicates which part of the coordinate plane contains all the solutions to the linear inequality.

