Graphing Linear Inequalities

Today's Standard

HSA.REI.D12 - Graph the solutions to a linear inequality in two variables as a half-plane (excluding the boundary in the case of a strict inequality), and graph the solution set to a system of linear inequalities in two variables as the intersection of the corresponding half-planes.

Cues	Notes
What is a linear inequality?	A linear inequality is similar to a linear equation but uses inequality signs (<, >, ≤, ≥) instead of an equal sign.
How do you graph a linear inequality?	To graph a linear inequality, first graph the boundary line, then shade the region that satisfies the inequality. Use a dashed line for strict inequalities (<, >) and a solid line for inclusive inequalities (≤, ≥).
What is a half-plane?	A half-plane is one side of the boundary line on a graph. It represents all the points that satisfy the inequality.
How do you find the solution set for a system of inequalities?	The solution set for a system of inequalities is the region where the shaded areas of all inequalities overlap.
What are common mistakes when graphing inequalities?	Common mistakes include incorrectly shading the region, not using the correct boundary line type, and misunderstanding the solution set for multiple inequalities.

Summary

Graphing linear inequalities involves plotting the boundary line and shading the appropriate half-plane. The solution set for a system of inequalities is the intersection of the shaded regions.