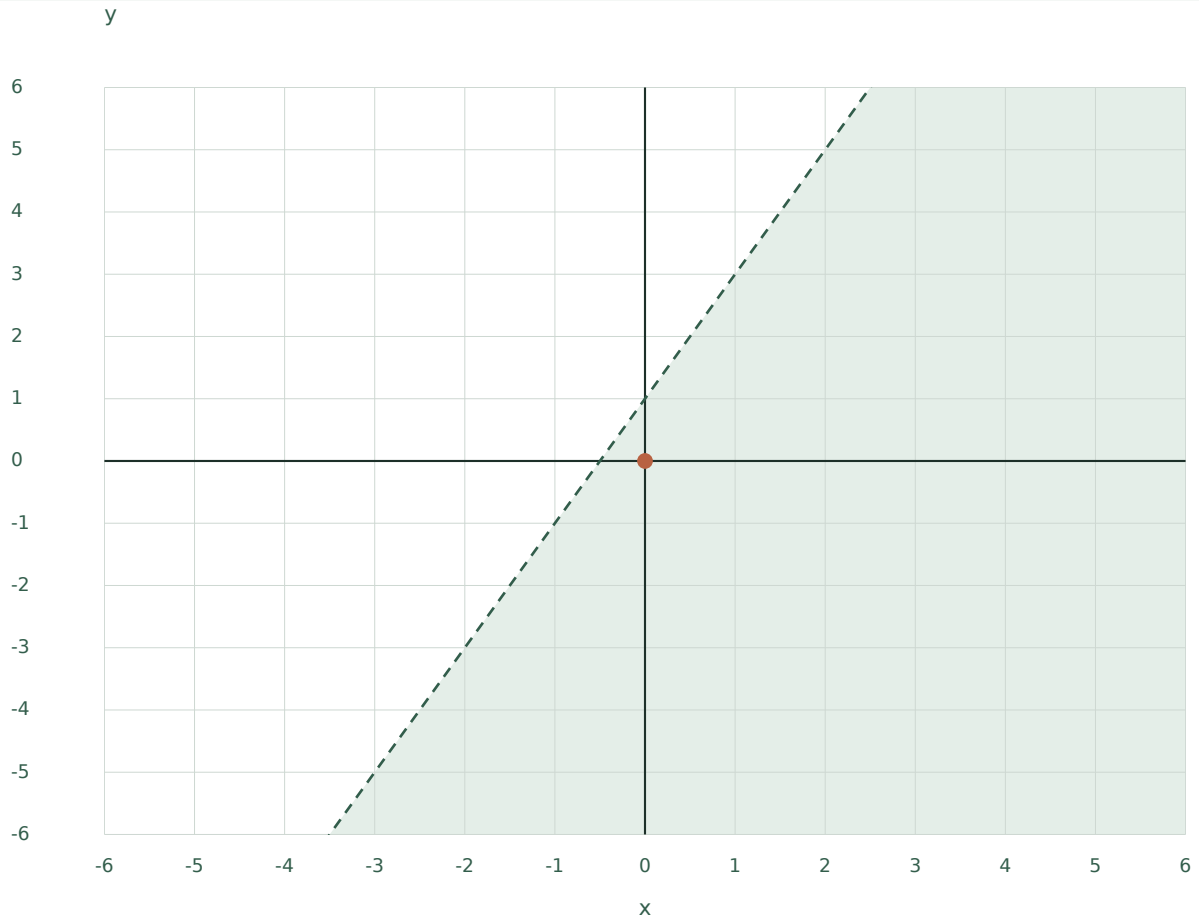
Plot Linear Inequality Regions: Boundary Lines and Test-Point Checks

Worked graph



Red dot marks the chosen test point (0,0), not an assertion that it belongs to the solution. Boundary style and shaded side follow the comparison.

Plot Linear Inequality Regions: Boundary Lines and Test-Point Checks

Original worked example / unchanged complete key

Prompt: Graph the inequality $y < 2x + 1$. Draw the boundary line, choose a test point, and shade the correct region.

Answer: Boundary line: $y = 2x + 1$. Since the inequality is $<$, draw a dashed line. Test point (0,0): $0 < 2(0) + 1$ gives $0 < 1$, which is true. Shade the side containing (0,0), which is below the dashed line. Check: point (0,0) inside is true; point (0,2) outside gives $2 < 1$ false.