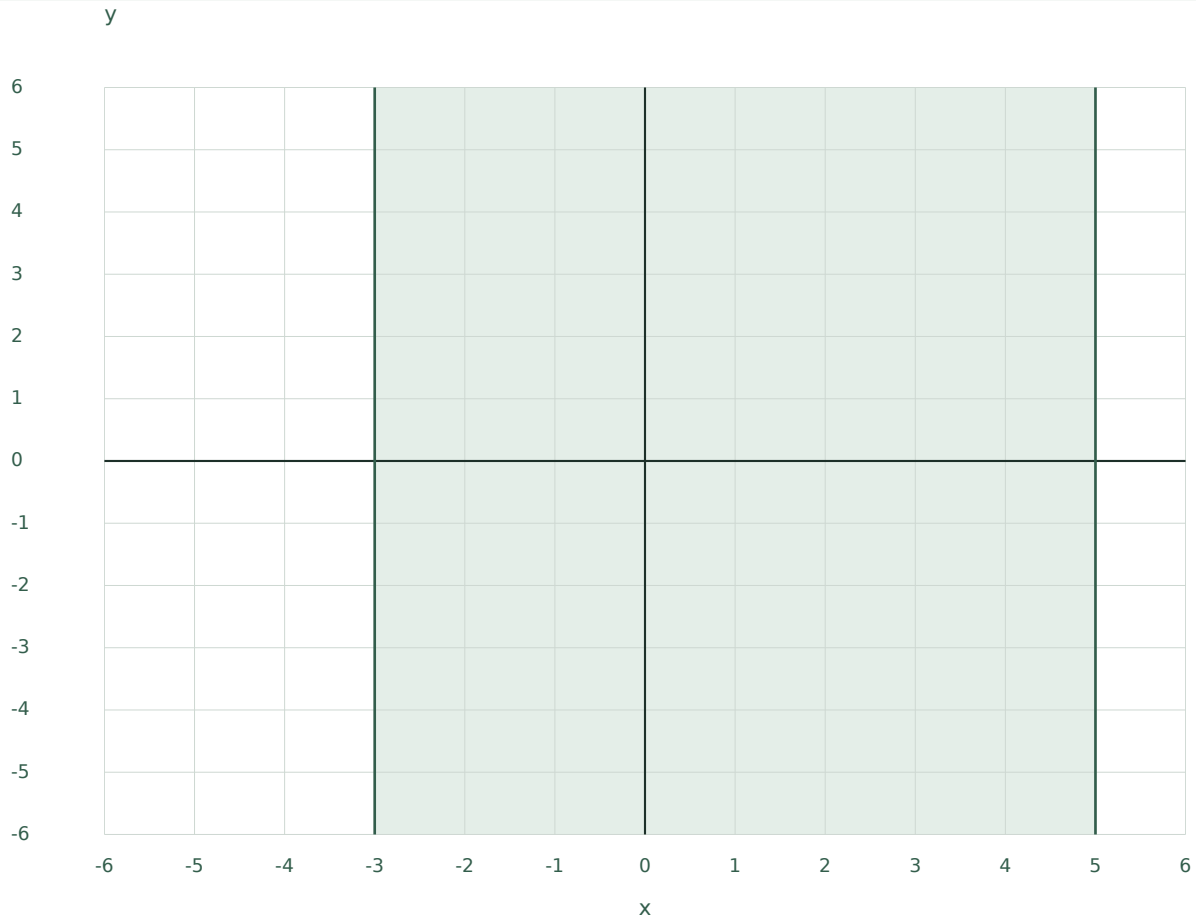
Graph Absolute-Value Inequalities: Boundary, Test Points, and Shading

Worked graph



Shade the strip satisfying BOTH comparisons. Solid boundaries include the edge.

Graph Absolute-Value Inequalities: Boundary, Test Points, and Shading

Original worked example / unchanged complete key

Prompt: Graph the inequality $|x - 1| \leq 4$. Rewrite as a compound inequality, graph the boundary, and shade using a test point.

Answer: Rewrite: $-4 \leq x - 1 \leq 4$, so $-3 \leq x \leq 5$. Boundary lines: $x = -3$ and $x = 5$, both solid because the inequality is inclusive. Test (0,0): $|0 - 1| = 1 \leq 4$ is true, so shade the vertical strip between $x = -3$ and $x = 5$, including the boundary lines.