Algebra 2
Unit: Systems of Equations and Inequalities
Section: Systems of Linear Inequalities

Example: Graphing Systems of Inequalities

Problem

Graph the system of inequalities. x plus y is less than or equal to 3. Two x minus three y is less than 3.

Solution

First graph the inequality x plus y is less than or equal to three. Notice that it has a solid line, because the inequality includes an 'equal to'. The shading is below this line.

Next, graph the in equality two x minus three y is less than three on the same coordinate axis. Notice that this graph has a dotted line, because the inequality does NOT include an 'equal to'. The shading is above this line.

The solution to the system on inequalities is the region where the shading overlaps. The solution includes the points on the solid line, but not the points on the dotted line. The shading is the left-most region.