Vocabulary: Linear Inequalities in Two Variables



**Vocabulary**

* Boundary – a line or curve separating one part of a plane from another.
* The boundary in the graph below is the line with the equation *y* = 5*x* + 5.
* A boundary that is a line divides a plane into two *half-planes*.
* Half-plane – a region in a plane consisting of all points on one side of a boundary.
* Every line divides the plane it lies in into two half-planes.
* Inequality – a statement that compares two quantities or expressions that are not equal.
* For example, 8 > 2, and also 5 < 2 • 3.
* An inequality contains one of these signs: < (less than), ≤ (less than or equal to), > (greater than), or ≥ (greater than or equal to).
* Linear inequality – an inequality whose graph is a half-plane with a linear boundary.
* The linear inequality graphed to the right is
*y* < 5*x* + 5.
* The shaded part of the graph contains all points that are solutions to this inequality.
* The boundary is the line with the equation *y* = 5*x* + 5, and is dashed because the inequality symbol used (<) does not include the “equal to” part.