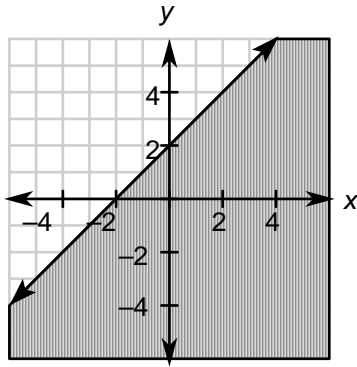


NAME: _____

P.I. A.G.6: Graph linear inequalities

1. Explain how to graph a linear inequality. Include an example.
2. Describe how to use a test point in an inequality to decide which of two regions to shade.
3. When graphing an inequality, the point $(0, 0)$ is sometimes used to test which side of a boundary line to shade. Describe a situation in which you would use $(0, 0)$ as a test point.

First, graph the boundary line. Use the inequality sign to determine whether the boundary line should be solid or dashed. Then test a point to determine the region to be shaded. For example, to graph $y \leq x + 2$, graph $y = x + 2$ as a solid boundary line. Since $(1, 1)$ makes the inequality true, shade the region below the boundary line.



[1]

Answers may vary. Sample: Substitute the x - and y -coordinates of the test point in the inequality. If those values make the inequality true, shade that region. If those values make the inequality false, shade the other region.

[2]

Answers may vary. Sample: when testing an inequality that does not have $(0, 0)$ on the boundary, such as $y \leq 2x - 3$

[3]
