

## I. Linear Inequality in 2-variables (p.287):

1.  $Ax + By \square C$  with either  $<$ ,  $>$ ,  $\leq$  or  $\geq$  (standard form)
2. A First Example (p.294): Exercise #8

## II. Basic Info: **see p.288**

- a. Solution of an inequality is a “region” of points whose  $(x,y)$ -coordinates satisfy the inequality.
- b. The “boundary” line is defined by the equation resulting from replacing the inequality with an equality (*i.e.*, “=”).
- c. Determination of which region contains the solutions can be found by “testing” any point not on the boundary.
- d. If a test point satisfies the inequality then every point in that region does also, whereas if the point does not then none of the points in that region will either (but the opposite region will).
- e. The entire set of solutions is indicated by shading the appropriate region.

### III. More Examples (p.294): Exercises #14,16

### IV. Boundary Line Convention:

- a. For either  $<$  or  $>$ , the boundary line is a **dashed line** indicating its points are **not** part of the solution set.
- b. For either  $\leq$  or  $\geq$ , the boundary line is a **solid line** indicating its points are part of the solution set.

### V. Another Example (p.294): Exercise #10

HW: p.294 / Exercises #1,7,9,11,13,17,19  
Re-read pp.287-293 (section 4.4)