

## 4.6 Graphing Linear Inequalities

### Concepts Related to Straight Lines

the slope of a line through two points

slope-intercept form

point-slope form

vertical line

horizontal line

parallel lines have \_\_\_\_\_ slopes

Perpendicular lines have \_\_\_\_\_ slopes

A straight line separates a plane into two half-planes. The points on one side of the line are in one of the half-planes and the points on the other side of the line are in the other half-plane.

\_\_\_\_\_ - The line itself

-If the boundary line is included, then the half-plane is said to be closed.

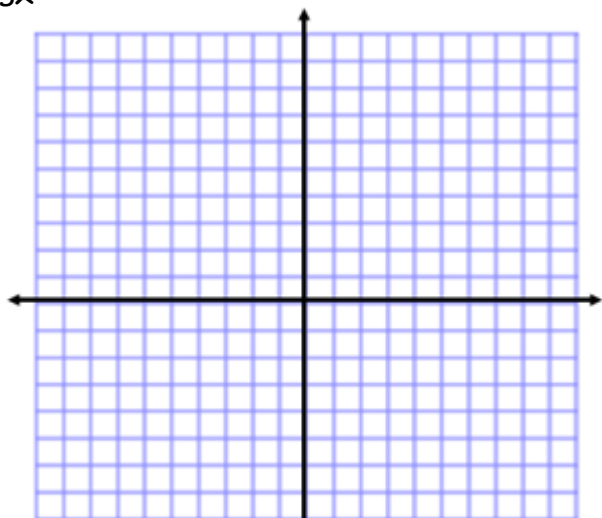
-If the boundary line is not included, then the half-plane is said to be open.

\_\_\_\_\_ or \_\_\_\_\_ means the line is solid (included)

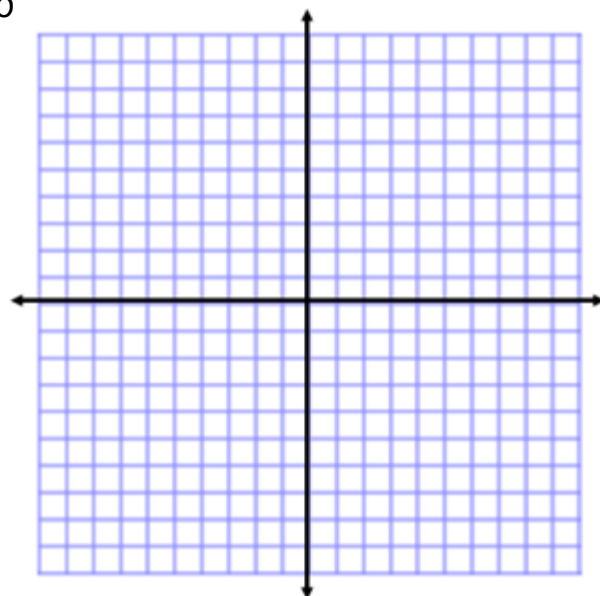
\_\_\_\_\_ or \_\_\_\_\_ means the line is dashed (not included)

Graph the following:

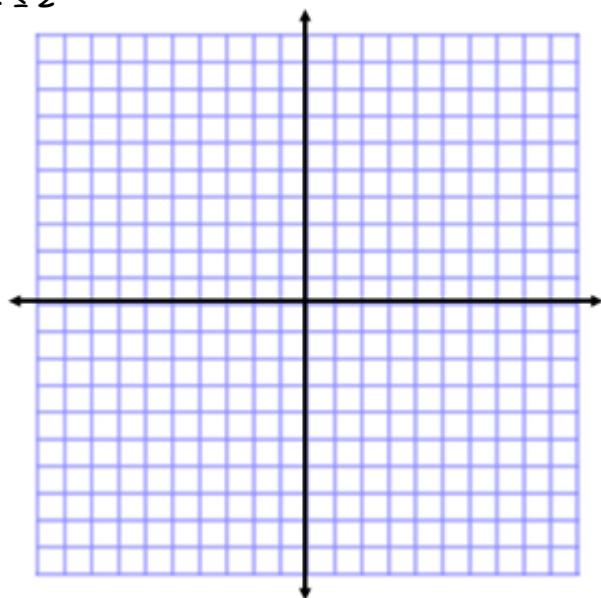
a)  $y > 3x$



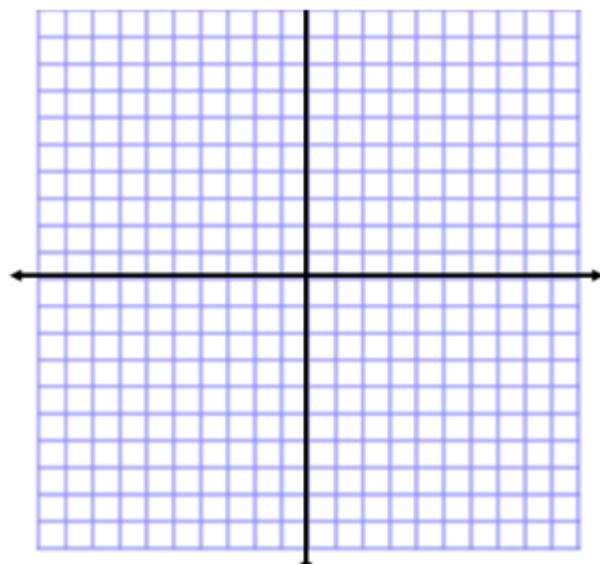
b)  $x - y > 0$



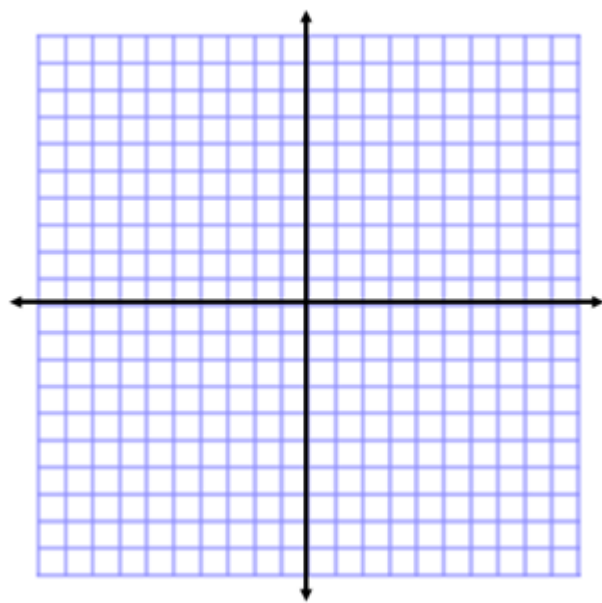
c)  $2y - x \leq 2$



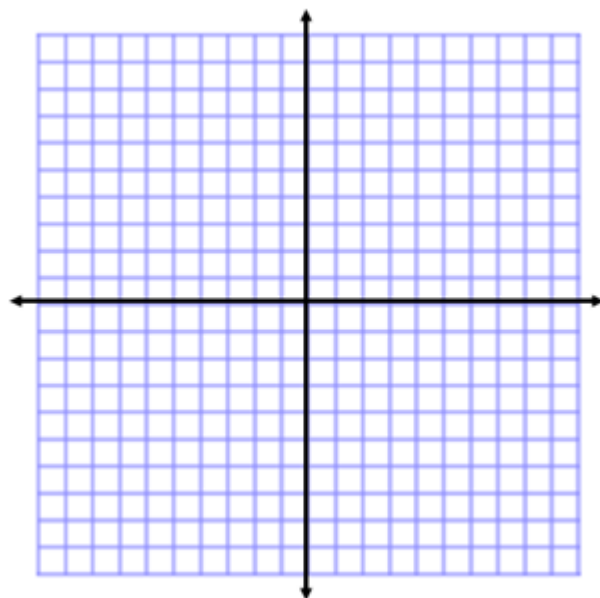
d)  $4x + 2y \geq 10$



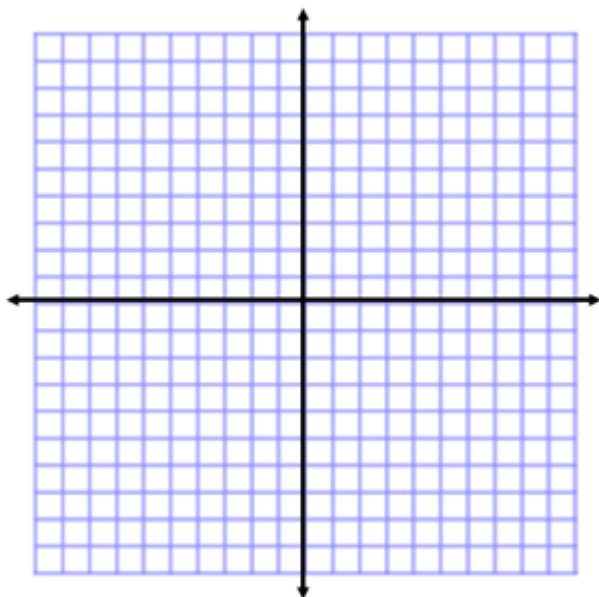
e)  $y \geq x + 1$



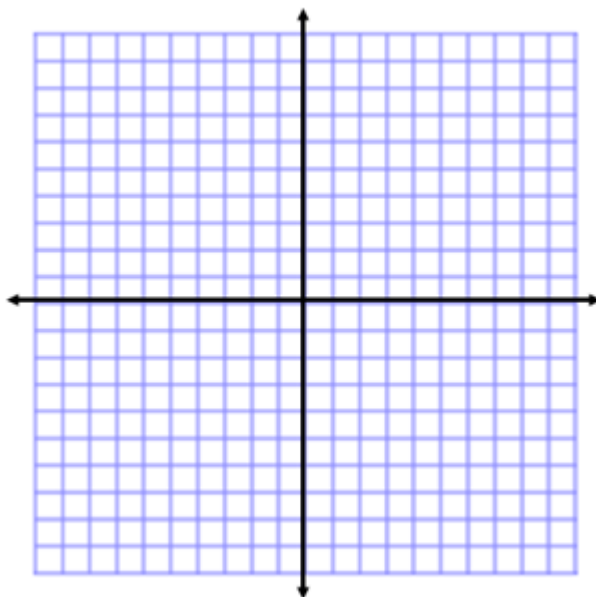
f)  $y > \frac{2}{3}x - 3$



g)  $y \leq 2$



h)  $x + 3y > 3y + 3$



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