

Systems of linear inequalities

$X < ?$ is left and less than // dashed lines and the

$X > ?$ is right and greater than

$X \leq ?$ is left and less than and equal to // Solid lines

$X \geq ?$ is right and greater than or equal to // Solid lines

When using y for a variable and or as an equation // horizontal line and or linear depending if there is slope.

See examples below

$Y = 1$	$Y = -1$	$Y \leq 1$	$Y \geq 1$	$Y < 1$	$Y > 1$
Horizontal Solid line	Horizontal Solid line	Horizontal Solid line below	Horizontal Solid line above	Horizontal dashed line below	Horizontal dashed line Above
Graph	Graph	Graph	Graph	Graph	Graph

When using x for a variable and or as an equation // vertical lines

$X = 1$	$X = -1$	$X \leq 1$	$X \geq 1$	$X < 1$	$X > 1$
Vertical Solid line	Vertical Solid line	Vertical Solid line left	Vertical Solid line right	Vertical dashed line left	Vertical dashed line right
Graph	Graph	Graph	Graph	Graph	Graph

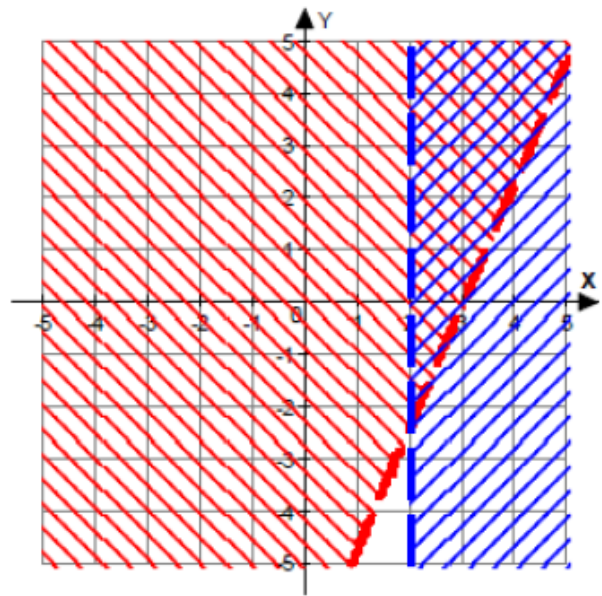
UNION Intersection // Graph $7x - 3y < 21$ or $x > 2$

Graph $7x - 3y < 21$ or $x > 2$

Graph each inequality with dashed line.

The graph of the union is the region that includes all points on both graphs.

$$Y = 7/3x - 7$$



$$7x - 3y < 21 \text{ or } x > 2$$

Intersection / Only what is common to both.

Intersection // Graph $7x - 3y < 21$ and $x > 2$

