Solving Systems of Linear Inequalities

Solving Systems of Linear Inequalities

Example: Find solutions to:
$$2x - 3y \leq -11$$
$$3x + 2y \geq 3$$

Solving Systems of Linear Inequalities

Example: Find solutions to:
$$2x - 3y \leq -11$$
$$3x + 2y \geq 3$$
To break things down, we will first find solutions to each inequality one at a time, then combine them both.

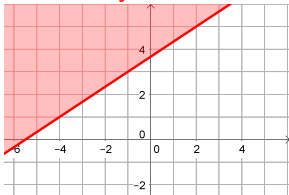# Solving Systems of Linear Inequalities

Example: Find solutions to:
$$2x - 3y \leq -11$$
$$3x + 2y \geq 3$$

To break things down, we will first find solutions to each inequality one at a time, then combine them both.

▸ Solving $2x - 3y \leq -11$ ▸ Solving $3x + 2y \geq 3$

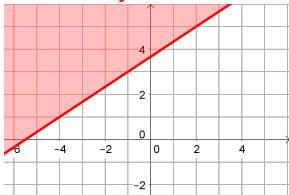# Solving Systems of Linear Inequalities

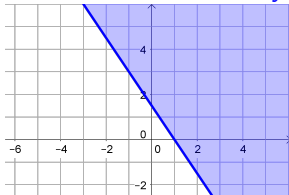**Example:** Find solutions to:
$$2x - 3y \leq -11$$
$$3x + 2y \geq 3$$

To break things down, we will first find solutions to each inequality one at a time, then combine them both.

▸ Solving $2x - 3y \leq -11$

▸ Solving $3x + 2y \geq 3$

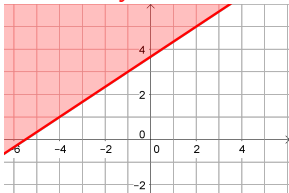# Solving Systems of Linear Inequalities

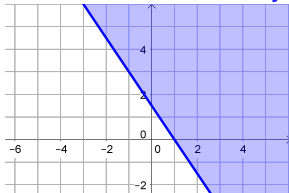**Example:** Find solutions to:
$$2x - 3y \leq -11$$
$$3x + 2y \geq 3$$

To break things down, we will first find solutions to each inequality one at a time, then combine them both.

▸ Solving $2x - 3y \leq -11$ ▸ Solving $3x + 2y \geq 3$
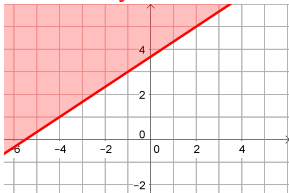
Solving Systems of Linear Inequalities

Example: Find solutions to:
$$2x - 3y \leq -11$$
$$3x + 2y \geq 3$$

To break things down, we will first find solutions to each inequality one at a time, then combine them both.

▸ Solving $2x - 3y \leq -11$ ▸ Solving $3x + 2y \geq 3$

Solutions are values where both inequalities are true

Solving Systems of Linear Inequalities
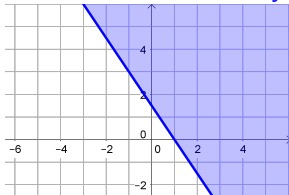
Example: Find solutions to:
$$2x - 3y \leq -11$$
$$3x + 2y \geq 3$$

To break things down, we will first find solutions to each inequality one at a time, then combine them both.
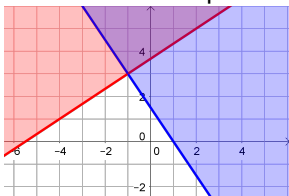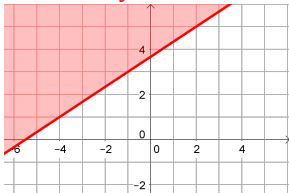
▸ Solving $2x - 3y \leq -11$

▸ Solving $3x + 2y \geq 3$

Solutions are values where both inequalities are true

Solving Systems of Linear Inequalities
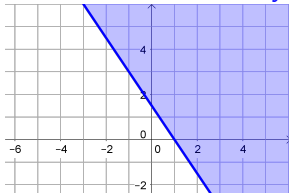
Example: Find solutions to:
$$2x - 3y \leq -11$$
$$3x + 2y \geq 3$$

To break things down, we will first find solutions to each inequality one at a time, then combine them both.
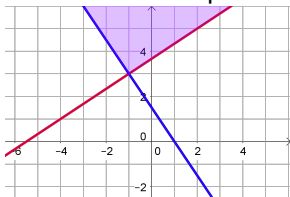
$2x - 3y \leq -11$ $3x + 2y \geq 3$

Solutions are values where both inequalities are true
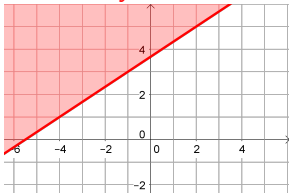
Solving Systems of Linear Inequalities

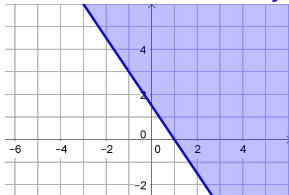**Example:** Find solutions to:
$$2x - 3y \leq -11$$
$$3x + 2y \geq 3$$

To break things down, we will first find solutions to each inequality one at a time, then combine them both.
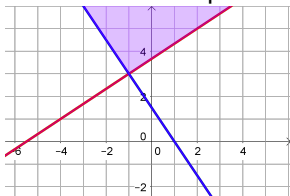
▸ Solving $2x - 3y \leq -11$

▸ Solving $3x + 2y \geq 3$

Solutions are values where both inequalities are true

To complete our graph, it remains to ▸ find the point of intersection
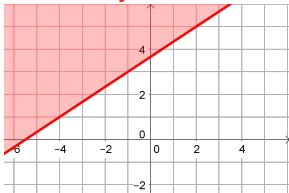
Solving Systems of Linear Inequalities

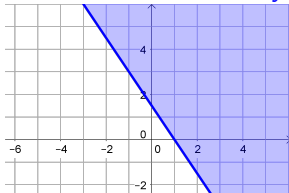**Example:** Find solutions to:
$$2x - 3y \leq -11$$
$$3x + 2y \geq 3$$

To break things down, we will first find solutions to each inequality one at a time, then combine them both.
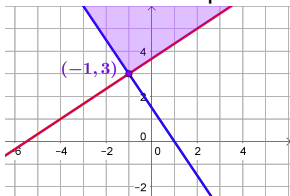
▸ Solving $2x - 3y \leq -11$

▸ Solving $3x + 2y \geq 3$

Solutions are values where both inequalities are true

$(-1, 3)$

To complete our graph, it remains to ▸ find the point of intersection