

Name:

Date:

Period:

1. Solve the system of inequalities graphically:

$$\begin{aligned}x &< -3 \\ y &\leq 2\end{aligned}$$

2. Solve the system of inequalities graphically:

$$\begin{aligned}y &\leq \frac{1}{2}x \\ y &\geq x - 3\end{aligned}$$

3. Solve the system of inequalities graphically:

$$\begin{aligned}x + y &\geq 3 \\ x - y &\leq 1\end{aligned}$$

4. Solve the system of inequalities graphically:

$$\begin{aligned}3x + y &\leq 4 \\ x + y + 2 &\geq 0\end{aligned}$$

5. On the same set of coordinate axes, graph the following system of inequalities:

$$\begin{aligned}3y &\geq 2x - 6 \\ x + y &> 7\end{aligned}$$

Based on the graph drawn in part a, write the coordinates of a point in the solution set of this system of inequalities.

6. On the same set of coordinate axes, graph the following system of inequalities:

$$\begin{aligned}0 &> 3x - 4 - y \\ x + 2y &\leq 6\end{aligned}$$

State the coordinates of a point that is NOT in the solution set of either inequality graphed in part a.

Determine which of the given points are solutions to the system of inequalities.

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|----|--------------------------------------|----|-----------|----|-----------|----|-----------|
| 1. | $2x - 3y > 10$
$x + 4y < 6$ | a. | (2, -1) | b. | (4, -7) | c. | (-3, 5) |
| 2. | $x + 2y \leq 12$
$x - y > 5$ | a. | (4, 1) | b. | (6, -5) | c. | (-10, 6) |
| 3. | $18x - 12y > 80$
$12x - 11y > 12$ | a. | (18, -20) | b. | (15, -10) | c. | (-8, 30) |
| 4. | $16x - 24y > 62$
$21x + 17y < 48$ | a. | (17, -18) | b. | (-14, 16) | c. | (22, -11) |