Quiz 2.2: Systems of Linear Inequalities in Two Variables

Multiple Choice: *Choose the letter that corresponds to the correct answer. Write the answer in your notebook.*

1. To graph a linear inequality, first graph the plane divider, then pick a test _____ to determine which half-plane to shade as the solution.

   A. Point B. Region C. Slope D. y-intercept

2. In the graph of $3x - y \geq 5$, the line $3x - y = 5$ is the:

   A. Half-plane B. Plane divider C. Shade D. Solution

3. A _____ consists of two or more inequalities considered simultaneously.

   A. System of linear equations
   B. System of linear inequations
   C. System of linear equalities
   D. System of linear inequalities

4. A _____ of a system of linear inequalities is a pair of numbers that satisfies each inequality of the system.

   A. Half-plane B. Plane divider C. Shade D. Solution

5. The ordered pair $(-1, 4)$ is a solution to which system of linear inequalities?

   A. $\begin{cases} 3x + y > 4 \\ 4x + 3y > 2 \end{cases}$ B. $\begin{cases} x + y < 5 \\ x + 2y < -3 \end{cases}$ C. $\begin{cases} 3x + y < 4 \\ 4x + 3y > 2 \end{cases}$ D. $\begin{cases} x - y > 5 \\ x + 2y \leq -3 \end{cases}$

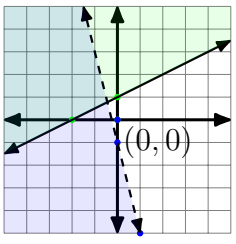
6. Which of the following is NOT a system of linear inequalities in two variables?

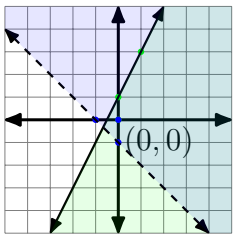
   A. $\begin{cases} y < 4 \\ 4x + 3y > 2 \end{cases}$ B. $\begin{cases} 3x + y < 4 \\ 4x + 3y = 2 \end{cases}$ C. $\begin{cases} x \geq 2 \\ 4x + y > -2 \end{cases}$ D. $\begin{cases} \frac{2}{3}x - y < 3 \\ y > 1 \end{cases}$

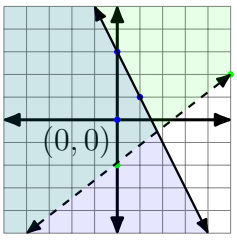
7. Which of the following ordered pairs is a solution to the system of linear inequality $\begin{cases} x - 3y \leq -6 \\ x + y < 5 \end{cases}$?

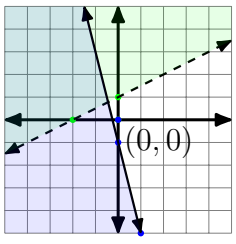
   A. $(4, 5)$ B. $(-1, -2)$ C. $(1, -3)$ D. $(-2, 1)$

8. Which of the following graphs shows the solution to the system $\begin{cases} x - 2y < -2 \\ y \leq -4x - 1 \end{cases}$?

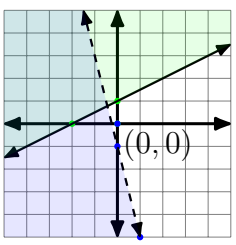
   A. 

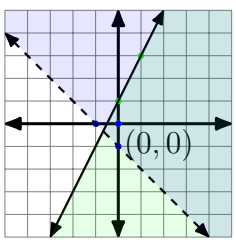
   B. 

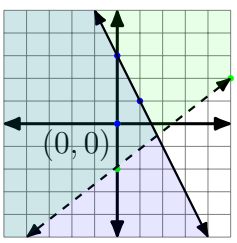
   C. 

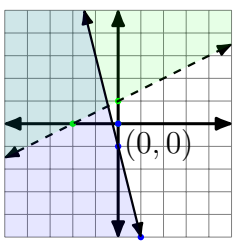
   D. 

9. Which of the following graphs shows the solution to the system $\begin{cases} y \leq 2x + 1 \\ x + y > -1 \end{cases}$?

   A. 

   B. 

   C. 

   D. 

Answer Key

1. To graph a linear inequality, first graph the plane divider, then pick a test _____ to determine which half-plane to shade as the solution.

   Solution:

   A. Point B. Region C. Slope D. y-intercept

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   Solution:

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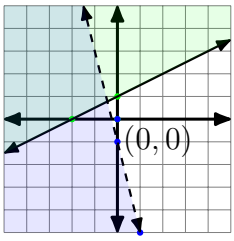
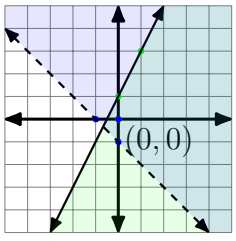
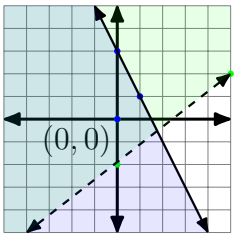
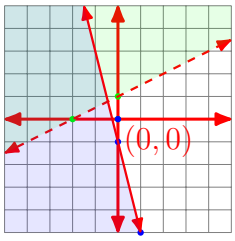
   A. 

   B. 

   C. 

   D. 

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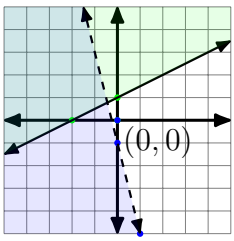
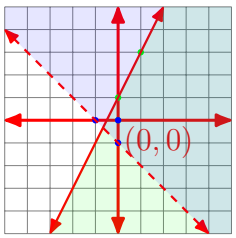
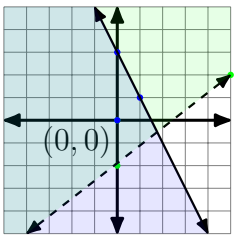
A. 

B. 

C. 

D.