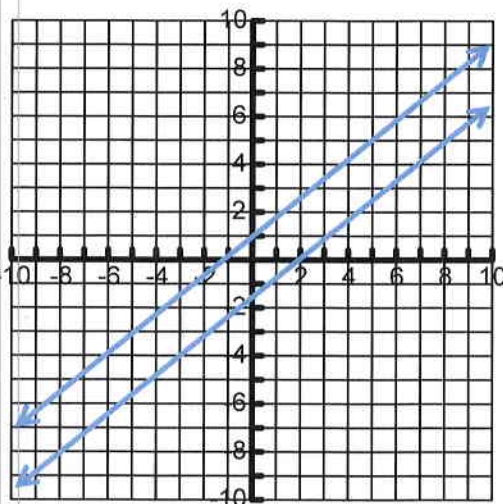


Instructions: Show all work. If you are using your calculator to solve, you may sketch a graph or indicate keys pressed to show work. Exact values: do not use decimals in your answers unless the problem begins with decimals, or is a word problem, or unless specifically asked to round. All answers should be fully reduced for full credit. Draw diagrams to help organize the data (this is worth partial credit). If you do your work on scrap paper, you should indicate that directly on the test paper along with your final answer. It is preferable, if you can, to do work directly on the quiz.

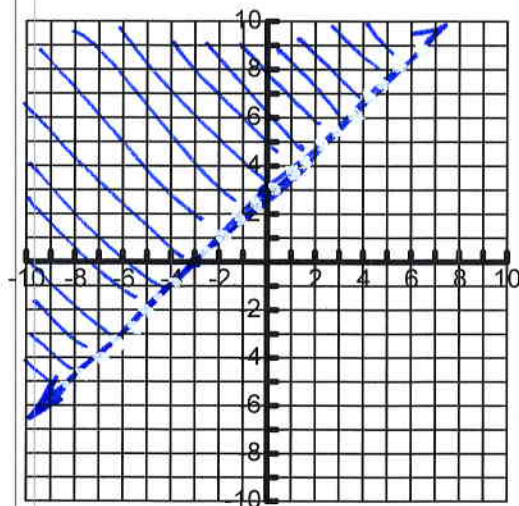
1. If one graphs a system of inequalities and obtains a graph that appears as the one shown, what do you know about the solution? Categorize the solution as consistent or inconsistent, and if possible, as dependent or independent.

*inconsistent
 Since the lines are parallel
 neither dependent nor independent
 since there is no solution*



2. Graph the linear inequality in two variables $-3 > x - y$ on the graph. Be sure to indicate the correct inequality on the graph and shade the region where the inequality is satisfied.

$$\begin{array}{r} -3 > x - y \\ +y \quad +y \\ \hline y - 3 > x \\ +3 \quad +3 \\ \hline y > x + 3 \end{array}$$



3. Determine if the lines given by $x - 4y = 24$ and $y = \frac{1}{4}x + 1$ are parallel, perpendicular or neither? Explain your choice.

$$\begin{array}{r} x - 4y = 24 \\ -x \quad -x \\ \hline -4y = -x + 24 \\ \frac{-4y}{-4} = \frac{-x + 24}{-4} \\ y = \frac{1}{4}x - 6 \end{array}$$

$$y = \frac{1}{4}x + 1$$

$$m_1 = \frac{1}{4} \quad m_2 = \frac{1}{4}$$

*these are the same slope
 so they are parallel lines*