

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. Solve the system of equations graphically. Sketch the system on the graph. Is the system consistent or inconsistent?

$$\begin{cases} 2x + y = 3 \\ 5x - y = 11 \end{cases}$$

$$y = -2x + 3$$

$$y = 5x - 11$$

Consistent

$$7x = 14$$

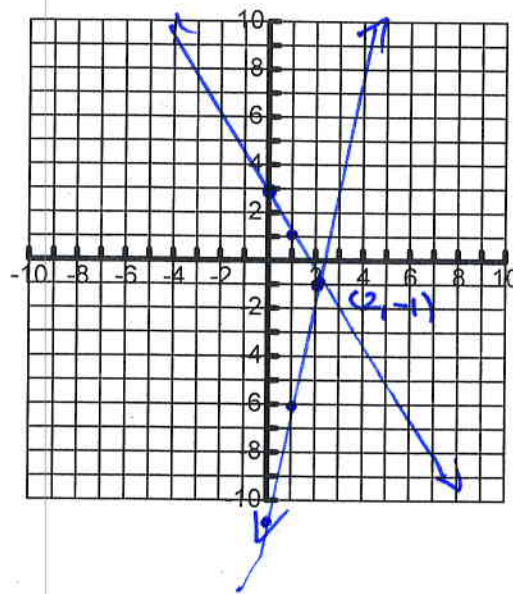
$$x = 2$$

$$5(2) - y = 11$$

$$10 - 11 = y$$

$$y = -1$$

(2, -1)



2. Write the system of equation needed to solve the problem below. You do not need to solve the system.

Find two numbers whose sum is 55 and whose difference is 17.

$$\begin{cases} x + y = 55 \\ x - y = 17 \end{cases}$$

$$\begin{array}{r} x + y = 55 \\ x - y = 17 \\ \hline 2x = 72 \\ x = 36 \end{array}$$

$$\begin{cases} 36 + y = 55 \\ -36 \end{cases}$$

$$y = 19$$

2 #s are 36 and 19

3. Solve the system by any method. Indicate whether the solution is dependent, independent or does not apply.

$$\begin{cases} 4 + y = 3x \\ 6x - 2y = -2 \end{cases}$$

$$y = 3x - 4 \quad \text{Substitution shown}$$

$$6x - 2(3x - 4) = -2$$

$$6x - 6x + 8 = -2$$

$$8 = -2$$

does not apply
inconsistent