

8) The system of equations  $y = 2x - 3$  and  $y = 4x - 3$  has

- A. Exactly one solution
- B. No solution
- C. Infinitely many solutions
- D. Exactly two solutions

9) Solve the system of equations. Write final answer in box.

$$\begin{array}{r} A: x - 2y + 3z = 7 \\ + \quad -3x + 2y - 2z = -10 \\ \hline (-2x + 2 = -3) \end{array}$$

$$-2(2) + 2 = -3$$

$$-4 + 2 = -3 \Rightarrow z = 1$$

$$x = \underline{2}$$

$$B \left[ \begin{array}{l} x - 2y + 3z = 7 \\ 2x + y + z = 4 \\ -3x + 2y - 2z = -10 \end{array} \right] A$$

$$-10x + 5z = -15$$

$$-5x + 5z = 15$$

$$-15x = -30 \Rightarrow x = 2$$

$$y = \underline{-1}$$

$$B: x - 2y + 3z = 7$$

$$2(2x + y + z = 4)$$

$$\begin{array}{r} x - 2y + 3z = 7 \\ + \quad 4x + 2y + 2z = 8 \\ \hline 5x + 5z = 15 \end{array}$$

$$(2) - 2y + 3 = 7$$

$$-2y + 5 = 7$$

$$y = -1$$

$$z = \underline{1}$$

10) Solve the following system of equations using elimination.

$$\begin{array}{r} 3(3x + 2y = 8) \rightarrow 9x + 6y = 24 \\ 2(5x - 3y = 7) \rightarrow 10x - 6y = 14 \end{array}$$

$$19x = 38$$

$$x = 2$$

(2, 1)

$$3(2) + 2y = 8$$

$$2y = 2$$

$$y = 1$$

11) Solve the following system of equations using substitution.

$$4x + 2y = 2$$

$$-3x + 2y = -12$$

$$2y = -4x + 2$$

(2, -3)

$$-3x + 2(-2x + 1) = -12$$

$$-3x - 4x + 2 = -12$$

$$-7x = -14 \Rightarrow x = 2$$

12) Solve the following by graphing

$$4x - 3y = 6 \Rightarrow y = \frac{4}{3}x - 2$$

$$-5x + 6y = 6 \Rightarrow y = \frac{5}{6}x + 1$$

(6, 6)

