

$$1 \neq nc - x -$$

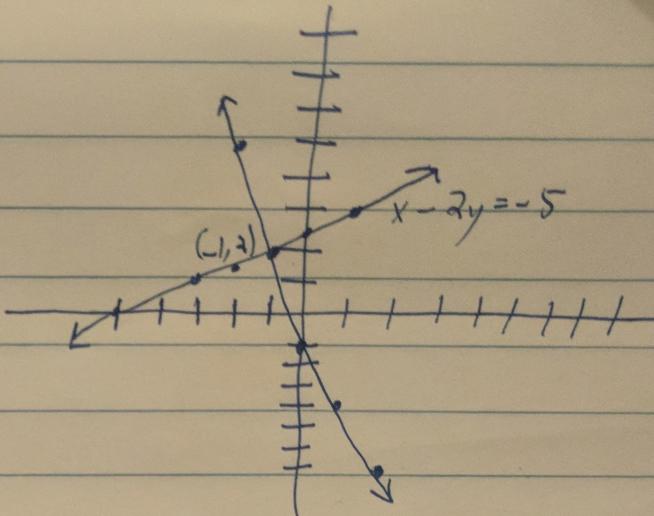
Lesson 1 Section 1.1

$$1) \begin{aligned} x - 2y &= -5 \\ 3x + y &= -1 \end{aligned}$$

$$x - 2y = -5$$

$$7y = 14 \quad R_2 + 3(R_1) \rightarrow R_2$$

$$y = 2; x = -1$$



$$2) \begin{aligned} x + y + z &= 1 \\ -x + 2y &= -6 \\ 2x + z &= 4 \end{aligned} \quad \begin{aligned} x + y + z &= 1 \\ 3y + z &= -5 \\ 2x + z &= 4 \end{aligned} \quad \begin{aligned} x + y + z &= 1 \\ 3y + z &= -5 \\ -2y - z &= 2 \end{aligned}$$

$$x + y + z = 1$$

$$6y + 2z = -10$$

$$\cancel{-6y - 3z} = 6$$

$$x + y + z = 1$$

$$6y + 2z = -10$$

$$-2y - z = -4$$

$$(z = 4)$$

$$\boxed{z = 4, y = -3, x = 0}$$

$$3) \begin{aligned} x - y + 2z &= 1 \\ x + 2y + z &= 2 \\ 3x + 5z &= 4 \end{aligned} \quad \begin{aligned} x - y + 2z &= 1 \\ 3y - z &= 1 \\ 3y - z &= 1 \end{aligned} \quad \begin{aligned} x - y + 2z &= 1 \\ 3y - z &= 1 \\ 3y - z &= 1 \end{aligned} \rightarrow \begin{cases} 3y - z = 1 \\ 3y - z = 1 \end{cases} \rightarrow 3y = 1 + z$$

$$3x + 5z = 4$$

$$3y - z = 1$$

$$\left| \begin{array}{l} \text{Let } z = k \\ y = \frac{1+z}{3} \end{array} \right.$$

$$y = \frac{1+z}{3}$$

$$\boxed{x = \frac{4}{3} + \frac{2}{3}k}$$

$$\boxed{y = \frac{1+k}{3}}$$

$$\boxed{x = \frac{1+4k}{3} + 2k}$$

$$x + 2y + z = 3$$

$$x - y + 2z = 1$$

$$2x + y + 3z = 2$$

$$x + 2y + z = 3$$

$$-3y + z = -2$$

$$-3y + z = -4$$

$$x + 2y + z = 3$$

$$-3y + z = -2$$

$$0 = -2$$

$$5) \begin{aligned} ax + y &= 2 \\ 3x - 2y &= -4 \end{aligned} \rightarrow \begin{aligned} -2(ax) - 2y &= -4 \\ 3x - 2y &= -4 \end{aligned}$$

$$\text{Some } 1 \text{ if } a = -1.5$$

$$-2ax = 3x$$

$$-2a = 3 \quad \boxed{a = -1.5}$$

+ coherent inconsistent system

then the equations would be equal,

$$\begin{aligned} &= \cancel{-2v} + \frac{2}{3} & v = -\frac{3}{2} \\ x^2h = v & & \end{aligned}$$

$$6) 2v - v = 1 \rightarrow 4v - 2v = 2$$

$$3v - 2v = 0 \quad 3v - 2v = 0$$

$$\Rightarrow v = 2$$

$$3v - 2v = 0$$

$$v = 3$$

$$\text{so } \boxed{x = \frac{1}{2} \quad y = \frac{1}{3}}$$

