

$$\begin{array}{l}
 18a) \quad x + 2y = 0 \\
 \quad \quad 2x + 4y = 6
 \end{array}
 \left. \begin{array}{l}
 \rightarrow 2x + 4y = 0 \\
 \rightarrow 2x + 4y = 6
 \end{array} \right\}$$

Sistema
Incompatible.
No tiene Solución

$$\begin{array}{l}
 18b) \quad x - y = 5 \\
 \quad \quad 2x - 2y = 10
 \end{array}
 \left. \begin{array}{l}
 \rightarrow 2x - 2y = 10 \\
 \rightarrow 2x - 2y = 10
 \end{array} \right\}$$

Infinitas Soluciones
S. Compatible indeterminado

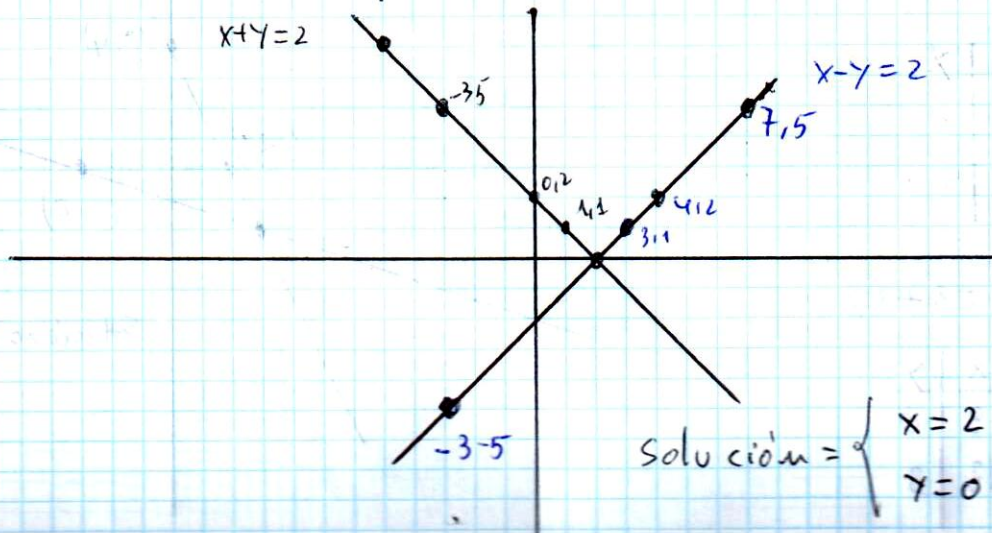
$$13a) \quad \left. \begin{array}{l}
 x + y = 2 \\
 x - y = 2
 \end{array} \right\}$$

$$\begin{array}{l}
 x + y = 2 \\
 x = 2 - y
 \end{array}$$

$$\begin{array}{l}
 x - y = 2 \\
 x = 2 + y
 \end{array}$$

x	y
1	1
0	2
-3	5
-5	7

x	y
3	1
4	2
7	5
-3	-5



43b)

$$\left. \begin{aligned} 2x + 3y &= 4 \\ x - 2y &= 2 \end{aligned} \right\}$$

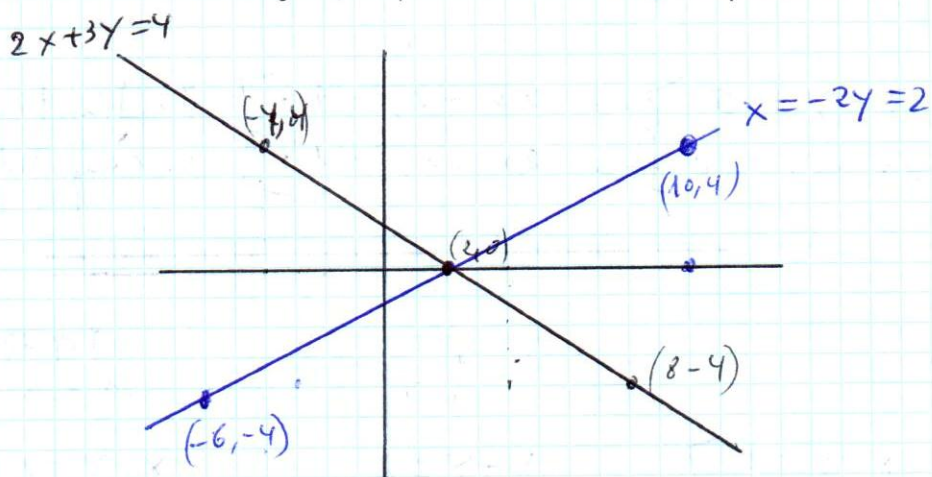
$$2x = 4 - 3y$$

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

$$x = 2 + 2y$$

x	y
2	0
-4	4
8	-4

x	y
2	0
10	4
-6	-4



Solución $\begin{cases} x = 2 \\ y = 0 \end{cases}$

44.a)

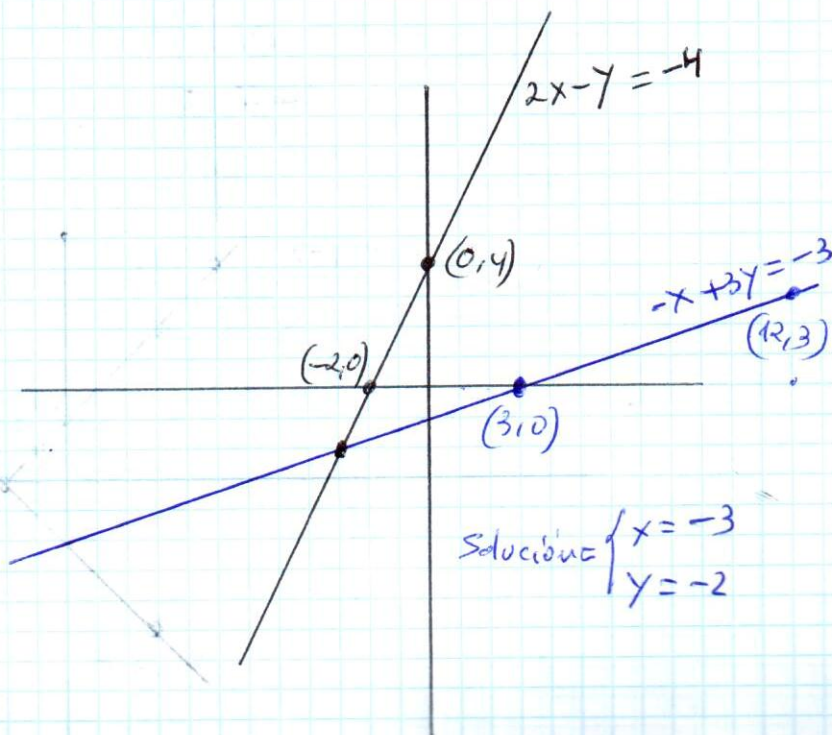
$$\left. \begin{aligned} 2x - y &= -4 \\ -x + 3y &= -3 \end{aligned} \right\}$$

$$x = \frac{-4 + y}{2}$$

x	y
-2	0
0	4

$$x = 3 + 3y$$

x	y
3	0
12	3



Solución $\begin{cases} x = -3 \\ y = -2 \end{cases}$

445)

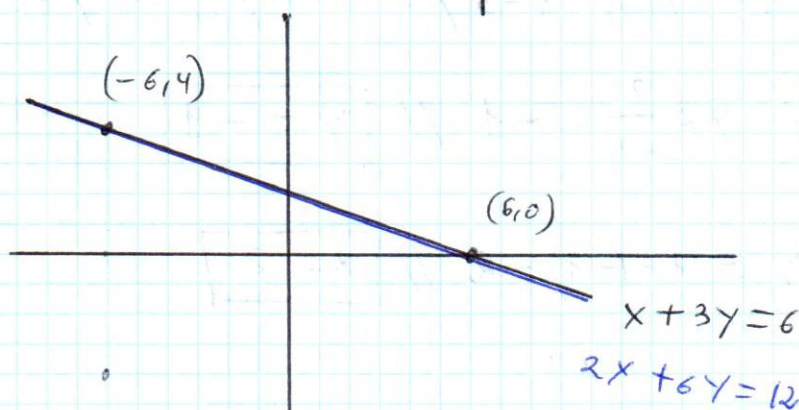
$$\left. \begin{aligned} x + 3y &= 6 \\ 2x + 6y &= 12 \end{aligned} \right\}$$

$$x = 6 - 3y$$

$$x = \frac{12 - 6y}{2}$$

x	y
6	0
-6	4

x	y
6	0
-6	4



Las dos ecuaciones definen la misma recta.

Infinitas soluciones
Sistema compatible indeterminado

$$58 a) \left. \begin{aligned} 3x + 5y &= 1 \\ x + y &= 1 \end{aligned} \right\}$$

$$x = 1 - y$$

$$3(1 - y) + 5y = 1$$

$$3 - 3y + 5y = 1$$

$$3 + 2y = 1$$

$$2y = 1 - 3$$

$$y = \frac{-2}{2} = -1 = \boxed{y = -1}$$

$$x = 1 - y = 1 - (-1) = 1 + 1 = 2 // \boxed{x = 2}$$

59a)

$$\left. \begin{array}{l} 3x + 5y = 1 \\ x + y = 1 \end{array} \right\} \Rightarrow \left. \begin{array}{l} x = \frac{1-5y}{3} \\ x = 1-y \end{array} \right\} \frac{1-5y}{3} = 1-y$$

$$1-5y = 3(1-y) \parallel 1-5y = 3-3y \parallel -5y+3y = 3-1$$

$$-2y = 2 \parallel y = \frac{2}{-2} = -1 \parallel \boxed{y = -1}$$

$$x = 1-y = 1-(-1) = 2 \parallel \boxed{x = 2}$$

61a)

$$\left. \begin{array}{l} -2(x-2) = y-4 \\ 3y-2x = 0 \end{array} \right\} \Rightarrow \left. \begin{array}{l} -2x+4 = y-4 \parallel -2x-y = -8 \\ -2x+3y = 0 \parallel \frac{+2x-3y = 0}{-4y = -8} \end{array} \right.$$

$$y = \frac{-8}{-4} = 2$$

$$\boxed{y = 2}$$

$$-2x+3y = 0 \parallel -2x+(2 \cdot 3) = 0 \parallel -2x+6 = 0 \parallel x = \frac{-6}{-2} = 3$$

$$\boxed{x = 3}$$

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62a)

$$\frac{3x}{3} - \frac{2x}{4} = 2$$

$$3y + 5x = -1$$

$$\left. \begin{array}{l} \frac{3x}{3} - \frac{2x}{4} = 2 \\ 3y + 5x = -1 \end{array} \right\} \Rightarrow x - \frac{1}{2}x = 2 \quad // \quad \frac{1}{2}x = 2 \quad // \quad x = 2 \cdot 2 = 4$$

$$\boxed{x = 4}$$

$$3y + 5x = -1 \quad // \quad 3y + (5 \cdot 4) = -1 \quad // \quad 3y + 20 = -1$$

$$3y = -1 - 20 = -21 \quad // \quad y = \frac{-21}{3} = -7 \quad // \quad \boxed{y = -7}$$

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23)

$$F + P = 40$$

$$P = 7 \cdot F$$

$$F + (7F) = 40$$

$$8F = 40$$

$$F = \frac{40}{8} = 5 \quad // \quad \boxed{F = 5}$$

$$P = 7 \cdot F = 7 \cdot 5 = 35 \quad // \quad \boxed{P = 35}$$

24)

$$m + P = 6$$

$$2'20m + 2'35P = 13'50$$

$$m = 6 - P$$

$$\left. \begin{array}{l} m + P = 6 \\ 2'20m + 2'35P = 13'50 \end{array} \right\} \Rightarrow 2'20(6 - P) + 2'35P = 13'50$$

$$13'20 - 2'20P + 2'35P = 13'50 \quad // \quad 13'20 - 0'15P = 13'50$$

$$0'15P = 13'50 - 13'20 \quad // \quad 0'15P = 0'30 \quad // \quad P = \frac{0'30}{0'15} = 2$$

$$\boxed{P = 2 \text{ kg.}}$$

$$m = 6 - P = 6 - 2 = 4 \quad // \quad \boxed{m = 4 \text{ kg.}}$$

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25)

$$\left. \begin{array}{l} d + i = 120 \\ 2d + i = 195 \end{array} \right\} \begin{array}{l} d = 120 - i \\ 2(120 - i) + i = 195 \end{array}$$

$$240 - 2i + i = 195 \quad // \quad -i = 195 - 240 = -45$$

$$-i = -45 \quad // \quad \boxed{i = 45}$$

$$d = 120 - i = 120 - 45 = 75 \quad // \quad \boxed{d = 75}$$