2/10/2020

42
$$\begin{cases} y = 2x - 1 \\ y = -x + 5 \end{cases}$$

$$\begin{cases} -x + 5 = 2x - 1 \\ y = -x + 5 \end{cases}$$

$$\begin{cases} -3x = -6 \\ // \end{cases} \qquad \begin{cases} x = 2 \\ y = 3 \end{cases} \qquad P(2,3)$$

$y = 2x - 1$

x	y
0	-1
2	3

$y = -x + 5$

x	y
0	5
2	3
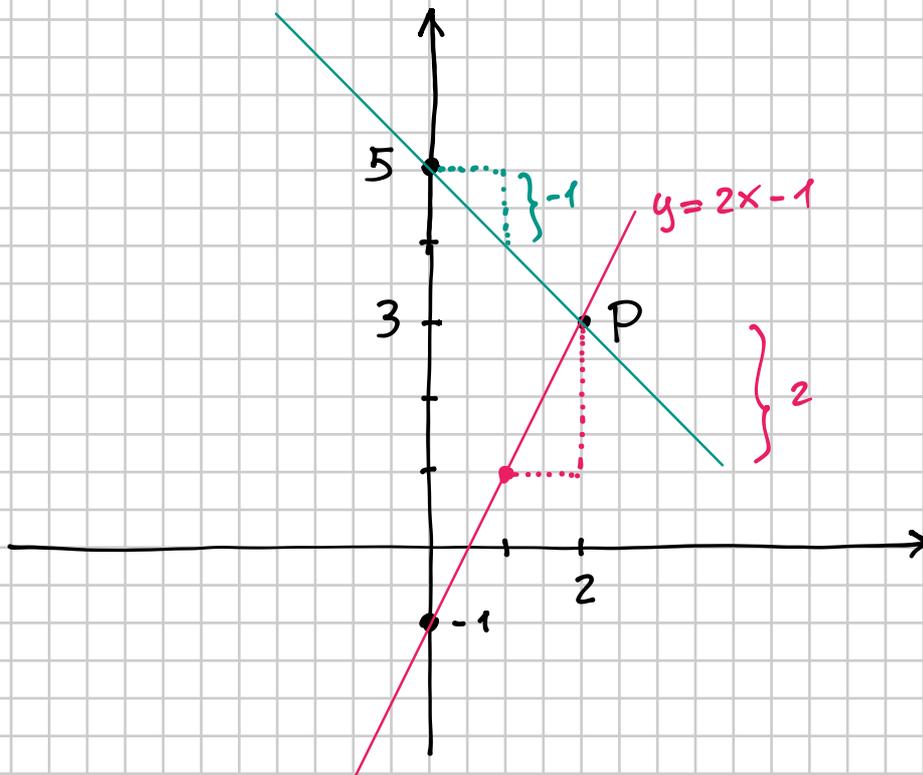
45
$$\begin{cases} y = -2x \\ 2x + y - 3 = 0 \end{cases}$$

$$\begin{cases} y = -2x & \leftarrow \text{ stesso coeff.} \\ y = -2x + 3 & \nearrow \text{ angolare } m = -2 \end{cases}$$

le rette sono //
e il sistema
è impossibile

$y = -2x + 3$

x	y
0	3
1	1

$y = -2x$

x	y
0	0
1	-2
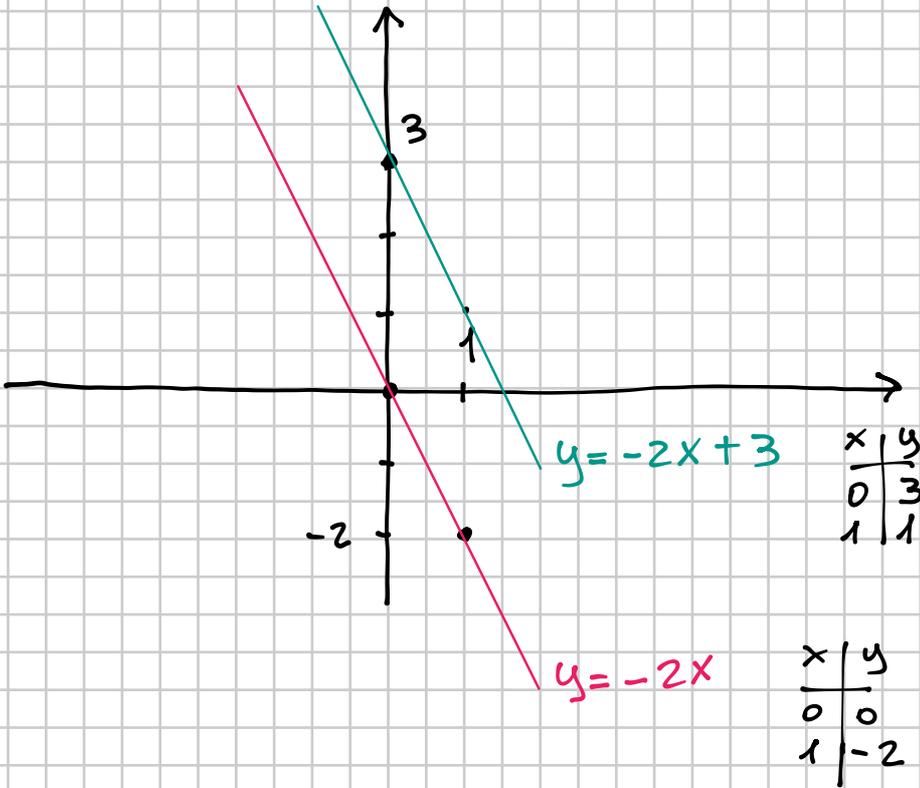
436 Sommando a un primo numero la metà del secondo si ottiene 1. Sottraendo dalla metà del primo numero il secondo si ottiene 8. Quali sono i due numeri? $[4; -6]$

$x = 1°$ numero $\qquad y = 2°$ numero

$$\begin{cases} x + \dfrac{1}{2}y = 1 \\ \dfrac{1}{2}x - y = 8 \end{cases} \qquad ② \begin{cases} 2x + y = 2 \\ \dfrac{1}{2}x - y = 8 \\ \hline \dfrac{5}{2}x \quad /\!/ = 10 \end{cases} \qquad \begin{cases} \dfrac{5}{2}x = 10 \\ 2x + y = 2 \end{cases}$$

$$\begin{cases} x = \overset{2}{\cancel{10}} \cdot \dfrac{2}{\cancel{5}_1} = 4 \\ 8 + y = 2 \end{cases} \qquad \begin{cases} x = 4 \\ y = -6 \end{cases}$$

305
$$\begin{cases} \dfrac{x-y}{x^2-1} = \dfrac{1}{x+1} + \dfrac{2}{x-1} \\ x-1 = y+1 \end{cases}$$

$$\left[\left(\dfrac{1}{3}, -\dfrac{5}{3} \right) \right]$$

$$\begin{cases} \dfrac{x-y}{(x-1)(x+1)} = \dfrac{1}{x+1} + \dfrac{2}{x-1} \\ \\ x = y+2 \end{cases}$$

C.E. $x \neq \pm 1$

$$\begin{cases} \dfrac{x-y}{(x-1)(x+1)} = \dfrac{x-1+2(x+1)}{(x+1)(x-1)} \\ \\ x = y+2 \end{cases}$$

$$\begin{cases} \cancel{x} - y = \cancel{x} - 1 + 2x + 2 \\ \\ x = y+2 \end{cases}$$

$$\begin{cases} -y = 1 + 2(y+2) \\ \\ x = y+2 \end{cases} \quad \begin{cases} -y = 1 + 2y + 4 \\ \\ \text{//} \end{cases} \quad \begin{cases} -3y = 5 \\ \\ \text{//} \end{cases}$$

$$\begin{cases} y = -\dfrac{5}{3} \\ \\ x = -\dfrac{5}{3} + 2 = \dfrac{1}{3} \end{cases} \qquad \boxed{\begin{cases} x = \dfrac{1}{3} \\ \\ y = -\dfrac{5}{3} \end{cases}} \leftarrow \text{dopo il controllo con C.E.}$$

306
$$\begin{cases} \dfrac{1}{x} + \dfrac{1}{x-y} = \dfrac{1}{2x^2 - 2xy} \\ \dfrac{1}{2}\left(x + \dfrac{7}{6}\right) = \dfrac{3-y}{3} \end{cases}$$

$$\begin{cases} \dfrac{1}{x} + \dfrac{1}{x-y} = \dfrac{1}{2x(x-y)} \\ \dfrac{1}{2}x + \dfrac{7}{12} = \dfrac{3-y}{3} \end{cases}$$

C.E. $x \neq 0$
         $x \neq y$

$$\begin{cases} \dfrac{2(x-y) + 2x}{2x(x-y)} = \dfrac{1}{2x(x-y)} \\ \dfrac{6x + 7}{12} = \dfrac{4(3-y)}{12} \end{cases}$$

$$\begin{cases} 2x - 2y + 2x = 1 \\ 6x + 4y = 12 - 7 \end{cases} \qquad \begin{cases} 4x - 2y = 1 \\ 6x + 4y = 5 \end{cases}$$

$D = \begin{vmatrix} 4 & -2 \\ 6 & 4 \end{vmatrix} = 16 + 12 = 28$

$D_x = \begin{vmatrix} 1 & -2 \\ 5 & 4 \end{vmatrix} = 4 + 10 = 14$

$D_y = \begin{vmatrix} 4 & 1 \\ 6 & 5 \end{vmatrix} = 20 - 6 = 14$

$$\begin{cases} x = \dfrac{D_x}{D} = \dfrac{14}{28} = \dfrac{1}{2} \\ y = \dfrac{D_y}{D} = \dfrac{14}{28} = \dfrac{1}{2} \end{cases}$$

SOLUZ. NON
ACCETTABILE
perchè per C.E.
deve essere $x \neq y$

$\Rightarrow$ SISTEMA IMPOSSIBILE

309
$$\begin{cases} \dfrac{1}{x-y} = \dfrac{1}{x+y} - \dfrac{x+y-1}{x^2-y^2} \\ (x-1)^2 + y = (x-2)^2 \end{cases}$$

$$\begin{cases} \dfrac{1}{x-y} = \dfrac{1}{x+y} - \dfrac{x+y-1}{(x-y)(x+y)} \\ x^2 + 1 - 2x + y = x^2 + 4 - 4x \end{cases} \qquad C.E. \quad x \neq \pm y$$

$$\begin{cases} \dfrac{x+y}{(x-y)(x+y)} = \dfrac{x-y-x-y+1}{(x-y)(x+y)} \\ \\ 2x + y = 3 \end{cases}$$

$$(-2)\begin{cases} x + 3y = 1 \\ 2x + y = 3 \end{cases} \qquad \begin{cases} -2x - 6y = -2 \\ \underline{2x + y = 3} \\ \qquad -5y = 1 \end{cases} \qquad \begin{cases} x + 3\left(-\dfrac{1}{5}\right) = 1 \\ y = -\dfrac{1}{5} \end{cases}$$

$$\begin{cases} x = 1 + \dfrac{3}{5} = \dfrac{8}{5} \\ y = -\dfrac{1}{5} \end{cases} \qquad \boxed{\begin{cases} x = \dfrac{8}{5} \\ y = -\dfrac{1}{5} \end{cases}} \qquad \text{dopo controllo C.E.}$$