

Frazioni e sistemi

0

$$\frac{a}{b} \in \mathbb{Q}$$

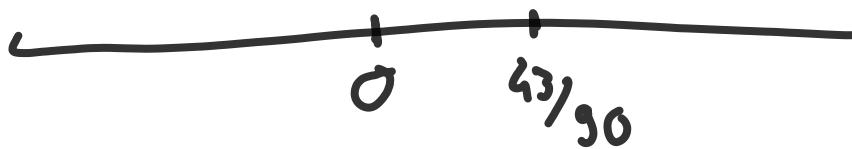
$$3/4 = 0,75 \quad 1/3 = 0,\overline{3}$$

$$0,\overline{3} + 0,\overline{6} = 0,\overline{9} = 1$$

$$\overset{''}{1}/3 + \overset{''}{2}/3 = \overset{''}{3}/3 = 1$$

$$0,4\overline{7} + 1,5\overline{8} \quad 2,063\overline{62}$$

$$\overset{''}{43}/90 + \overset{''}{157}/99 = \overset{''}{2043}/990$$



Proporzione $a:b = c:d$

$$\frac{a}{b} = \frac{c}{d}$$

$$a = \frac{cb}{d}$$

$\Leftrightarrow$

$$a:c = b:d$$

$$\frac{a}{c} = \frac{b}{d}$$

32

15%

o

$$15 : 100 = x : 32$$

$$\frac{x}{32} = \frac{15}{100}$$

$$\begin{array}{r} 32 \quad 320 \quad 480 \\ 15 \quad \underline{160} \\ 4,8 \end{array}$$

$$\frac{15}{100} = \frac{4,8}{32}$$

$$\frac{1}{3} + \frac{1}{4} = \frac{4}{12} + \frac{3}{12} = \frac{7}{12}$$

$$\frac{3}{5} : 2$$

$$0,6 : 2 = 0,3$$

$$\frac{3}{7} : 2$$

$$\frac{3}{7} \times \frac{1}{2} = \frac{3}{14}$$

$$x \sim x$$

$$x \sim y \quad y \sim x$$

$$x \sim y \quad y \sim z \Rightarrow x \sim z$$

$$1 : 0 = 2 : 0$$

$$0:0 = a:b$$

° $\frac{1}{0}$ numero de null. per 0 da 1

$\frac{0}{0}$ " " " " 0

matrice

$$\begin{pmatrix} a & b \\ c & d \end{pmatrix}$$

determinante
 $ad - bc$

$$a:b = c:d$$

determinante

$$ad = bc$$

$$ad - bc = 0$$

scambio
i med

~~$$\begin{pmatrix} a & c \\ b & d \end{pmatrix}$$~~

$$a:c = b:d$$

$$ax + b = c$$

eq: di 1° grado
 $a \neq 0$

$$3x + 1 = 16$$

~~$$3x + 1 - 1 = 16 - 1$$~~

$$3x + 1 = 16$$

~~$$3x = 15 \quad \frac{3x}{3} = \frac{15}{3}$$~~

$$\frac{1}{3}(3x) = \frac{1}{3}(15)$$

$$x = \frac{15}{3} = 5$$

$$2x+2 = 2x-3$$

$$2x = 2x-5$$

$$2x-2x = -5$$

$0 = -5$
non ha soluzione.

$$ax+2 = bx-3 \quad a \neq b$$

$$(a-b)x = -5 \quad x = \frac{-5}{a-b}$$

$$x+2y = 10$$

$$x=4 \quad y=3$$

$$x=2 \quad y=4$$

X

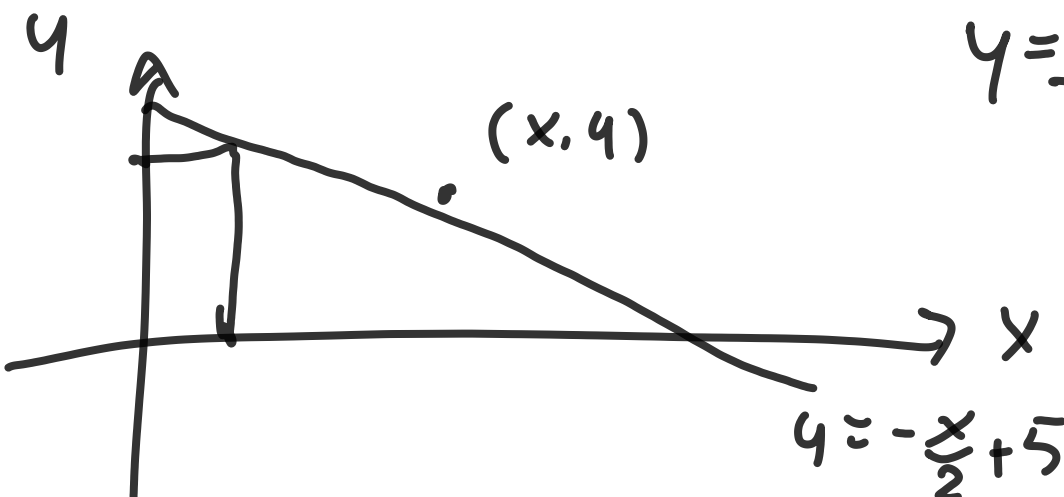
soluz.

oggetto composto

Soluzione è
una coppia ordinata
di numeri che sostituiti
nell'ordine a x, y
verificano =

$$x = 10 - 2y$$

$$y = -\frac{x}{2} + 5$$



$$\begin{array}{l} \text{AND} \end{array} \left\{ \begin{array}{l} x + 2y = 10 \\ x - y = 4 \end{array} \right. \quad \left\{ \begin{array}{l} a + 2b = 10 \\ a - b = 4 \end{array} \right.$$

$$\left(\begin{array}{cc|c} 1 & 2 & 10 \\ 1 & -1 & 4 \end{array} \right)$$

$$\left\{ \begin{array}{l} x + 2y = 10 \\ 3y = 7 \end{array} \right.$$

$$\begin{array}{cc|c} x & y & \\ \hline 1 & 2 & 10 \\ 0 & 3 & 7 \end{array}$$

$$\left\{ \begin{array}{l} x + 2y = 10 \\ 2x + 4y = 6 \end{array} \right.$$

$$\left\{ \begin{array}{l} x = 10 - 2y \\ 2(10 - 2y) + 4y = 6 \end{array} \right.$$

$$\left\{ \begin{array}{l} x = 10 - 2y \\ 20 - 4y + 4y = 6 \end{array} \right.$$

$$\left\{ \begin{array}{l} x = 10 - 2y \\ 20 = 6 \end{array} \right. \quad \left\{ \begin{array}{l} x = 10 - 2y \\ 0 = -14 \end{array} \right.$$

non risolvibile

$$\begin{pmatrix} 1 & 2 \\ 1 & -1 \end{pmatrix} \det = -3$$

$$\begin{pmatrix} 1 & 2 \\ 2 & 4 \end{pmatrix} \det = 0$$

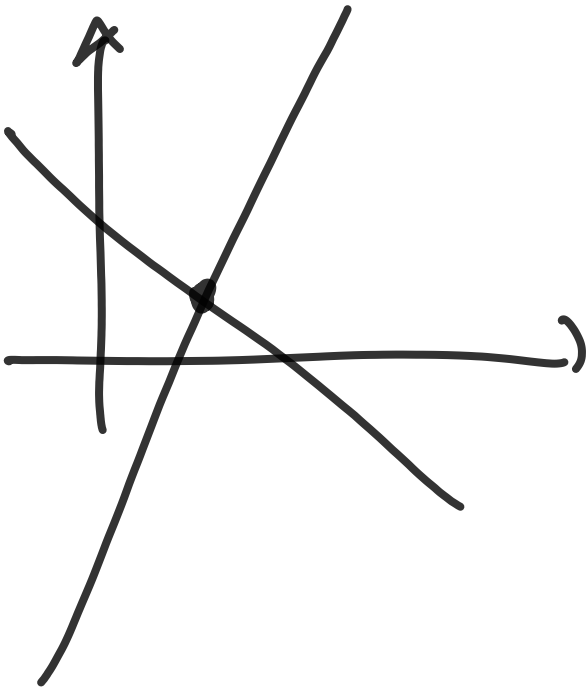
$$\left\{ \begin{array}{l} x + 2y = 10 \\ 2x + 4y = 20 \end{array} \right.$$

$$\left\{ \begin{array}{l} x = 10 - 2y \\ 2(10 - 2y) + 4y = 20 \end{array} \right.$$

$$\left\{ \begin{array}{l} x = 10 - 2y \\ 20 - 4y + 4y = 20 \end{array} \right.$$

$$\begin{cases} x = 10 - 2y \\ 0 = 0 \text{ identită} \end{cases}$$

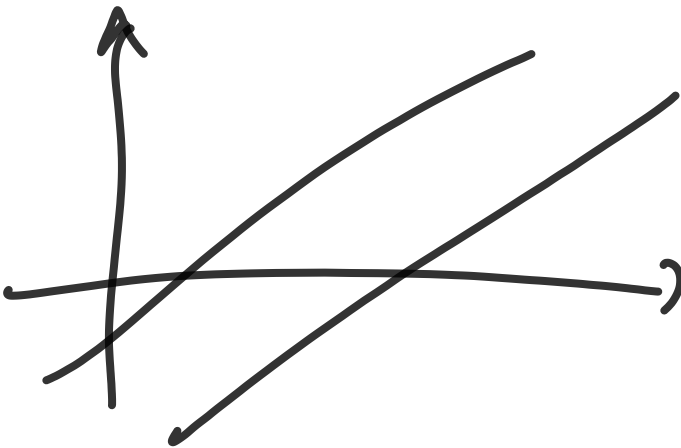
$$\begin{pmatrix} 1 & 2 & 10 \\ 2 & 4 & 20 \end{pmatrix}$$



$$\begin{cases} x + 2y = 10 \\ 2x + 4y = 6 \end{cases}$$

$$y = -\frac{x}{2} + 5$$

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



$$\begin{cases} x + 2y = 10 \\ 2x + 4y = 20 \end{cases}$$

$$y = -\frac{x}{2} + 5$$

$$y = -\frac{x}{2} + 5$$

$$\begin{cases} y - mx = 9 \\ y - m \end{cases}$$

$$1 - m \quad 9$$

$$\left(\begin{array}{cc|c} 2 & 0 & 1 \\ 3 & 0 & 4 \end{array} \right)$$

$$\begin{cases} x + y + 3z = 12 \\ x - y + z = 1 \\ 3x + 4z = 0 \end{cases}$$

$$\left(\begin{array}{ccc|c} 1 & 1 & 3 & 12 \\ 1 & -1 & 1 & 1 \\ 3 & 0 & 4 & 0 \end{array} \right)$$

det.

$$\begin{cases} x + 2y = 10 \\ 2x + 4y = 6 \end{cases}$$

$$x = \frac{x}{2}$$

$$y = \frac{y}{2}$$

$$\begin{cases} \frac{x}{2} + 2\frac{y}{2} = 10 \\ 2\frac{x}{2} + 4\frac{y}{2} = 6 \end{cases}$$

$$\begin{cases} x + 2y = 10 \\ 2x + 4y = 6 \end{cases}$$

$$x = 2y \quad z = 0$$

