

Stelsels van vgl.

$$\begin{aligned}x + 2y &= 5 \\ 2x + y &= 4\end{aligned}$$

2 vgl.
2 onbekenden

eliminatie methode

$$\begin{aligned}x + 2y &= 5 \quad \text{--- ①} \\ 2x + y &= 4 \quad \text{--- ②}\end{aligned}$$

$$\begin{array}{rcl} \text{①} - |2x| & \rightarrow & 2x + 4y = 10 \\ \text{②} & \rightarrow & 2x + y = 4 \\ \hline & & 0 + 3y = 6 \Rightarrow y = \frac{6}{3} = 2 \end{array}$$

$$y = 2 \rightarrow \text{①} \rightarrow x + 2 \cdot 2 = 5 \Rightarrow x = 1$$

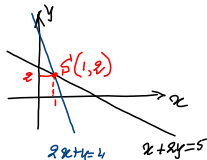
Klopt het antw.?

Controle rekenkundig

$$y = 2 \rightarrow \text{②} \rightarrow 2x + 2 = 4 \\ 2x = 2 \Rightarrow x = 1 \text{ klopt}$$

$$x = 1 \rightarrow \text{②} \rightarrow 2 \cdot 1 + y = 4 \Rightarrow y = 2 \text{ klopt}$$

grafische controle



$$\begin{cases} x+y=4 & \dots\dots ① \\ 2x+y=-1 & \dots\dots ② \end{cases}$$

$$\underline{-x} \quad \underline{0} = 5 \Rightarrow \underline{\underline{x=-5}}$$

$$\begin{matrix} \uparrow & \uparrow & \uparrow \\ x-(+2x) & y-(+y) & 4-(-1) \end{matrix}$$

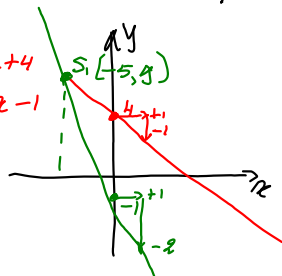
$$x=-5 \rightarrow ① \quad -5+y=4 \Rightarrow \underline{\underline{y=9}}$$

Controle

$$\begin{aligned} x=-5 \rightarrow ② & \rightarrow 2(-5)+y=-1 \\ -10+y & = -1 \Rightarrow y=9 \\ & \text{klapt} \end{aligned}$$

$$① \rightarrow y = -x + 4$$

$$② \rightarrow y = -2x - 1$$



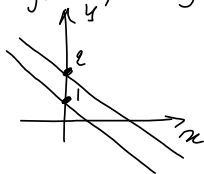
$$y = ax + b$$

$a = \text{ri.co.}$

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

$$\frac{0+0=1}{0+0=1} \text{ geen oplossing}$$

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



$$\begin{cases} 2x+y=2 \\ 2x+2y=4 \end{cases} \Rightarrow 0=0$$

$$\begin{cases} 2x-3y=1 \dots ① \\ 3x-4y=1 \dots ② \end{cases}$$

$$\begin{aligned} ① - 3x &\rightarrow -6x + 9y = 3 \\ ② - 2x &\rightarrow 6x - 8y = 2 \end{aligned} \quad \begin{aligned} &+ \\ &-y = 1 \Rightarrow y = -1 \end{aligned}$$

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

Controle

$$\begin{aligned} y = -1 &\rightarrow ② \rightarrow 3x - 4(-1) = 1 \\ &3x + 4 = 1 \\ &3x = -3 \Rightarrow x = -1 \end{aligned} \quad \left. \begin{array}{l} \\ \\ \end{array} \right\} \text{klopt}$$

Substitutie methode

$$\begin{cases} x + 2y = 5 & \Rightarrow x = -2y + 5 \\ 2x + y = 4 & \text{--- (2)} \end{cases}$$

$$x = -2y + 5 \rightarrow (2) \rightarrow 2(-2y + 5) + y = 4$$

$$-4y + 10 + y = 4$$

$$-3y = -6 \Rightarrow y = 2$$

end.

$$\begin{cases} x + 3y + z = 1 \dots\dots (1) \\ 2x - y - 3z = -8 \dots\dots (2) \\ -3x + 2y + 2z = 7 \dots\dots (3) \end{cases}$$

$$\begin{array}{l} (1) \rightarrow 2x \rightarrow 2x + 6y + 2z = 2 \\ (2) \rightarrow \quad \quad \quad 2x - y - 3z = -8 \quad - \\ \hline \quad \quad \quad 7y + 5z = 10 \dots\dots (4) \end{array}$$

$$\begin{array}{l} (1) \rightarrow 3x \rightarrow 3x + 9y + 3z = 3 \\ (3) \rightarrow \quad \quad \quad -3x + 2y + 2z = 7 \quad + \\ \hline \quad \quad \quad 11y + 5z = 10 \dots\dots (5) \end{array}$$

$$(4) \rightarrow 7y + 5z = 10$$

$$(5) \rightarrow 11y + 5z = 10 \quad - \\ \quad \quad \quad -4y = 0 \Rightarrow \underline{\underline{y=0}}$$

$$y=0 \rightarrow (4) \rightarrow 7 \cdot 0 + 5z = 10 \\ 5z = 10 \Rightarrow \underline{\underline{z=2}}$$

$$\begin{cases} y=0 \\ z=2 \end{cases} \rightarrow (1) \rightarrow x + 3 \cdot 0 + 2 = 1 \Rightarrow \underline{\underline{x=-1}}$$

Controle

11.5 a.

$$\begin{cases} x=-1 \\ y=0 \\ z=2 \end{cases} \rightarrow (2) \rightarrow 2(-1) - 0 - 3 \cdot 2 \stackrel{?}{=} -8 \\ \quad \quad \quad -2 \quad \quad -6 \stackrel{?}{=} -8 \\ \quad \quad \quad \text{klopt.}$$

$$\begin{cases} x - 5y + z = 2 & \dots - (1) \\ x - 3y - 2z = 1 & \dots - (2) \\ -3x + 5y + 7z = -4 & \dots - (3) \end{cases}$$

$$(1) \rightarrow x - 5y + z = -2$$

$$(2) \rightarrow \frac{x - 3y - 2z = 1}{-2y + 3z = -3} \dots (4)$$

$$(1) - |3x| \rightarrow 3x - 15y + 3z = -6$$

$$(3) \rightarrow \frac{-3x + 5y + 7z = -4}{-10y + 10z = -10} \dots (5)$$

$$(4) - |5z| \rightarrow -10y + 15z = -15$$

$$(5) \rightarrow \frac{-10y + 10z = -10}{5z = -5 \Rightarrow \underline{\underline{z = -1}}}$$

$$z = -1 \rightarrow (4) \rightarrow -10y + 10(-1) = -10$$

$$-10y - 10 = -10$$

$$-10y = 0 \Rightarrow \underline{\underline{y = 0}}$$

$$y = 0 \rightarrow (1) \rightarrow x - 5 \cdot 0 + (-1) = -2$$

$$z = -1 \rightarrow x - 1 = -2 \Rightarrow \underline{\underline{x = -1}}$$

Controle

$$\begin{cases} x = 0 \\ y = 0 \\ z = -1 \end{cases} \rightarrow (2) \rightarrow 0 - 3 \cdot 0 - 2(-1) = 2 \neq 1$$

2 = ~~1~~ Fout

$-1 + 2 = 1$ klopt