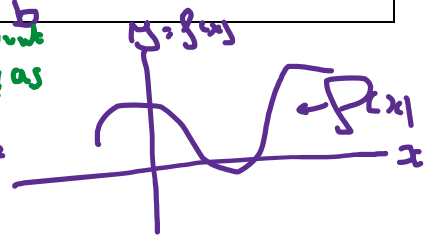
rechte

LINEAIRE FUNCTIES

$$f(x) = \boxed{a}x + b$$

a
b
↳ snijpunt met y as

RECHTEN
= 1ste graadsfunctie



$2x - 5 = 0$

$-4x + 8 \Rightarrow$ Dalend

$3x + 9 \Rightarrow$ Stijgend

a = richtingscoefficient = nico

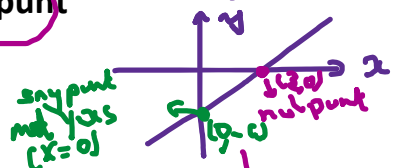
Vorm

Stijgende rechte

$a > 0$

$f(x) = 2x - 6$

a b



$ax + b = 0$

$2x - 6 = 0$

$2x = 6 \Rightarrow x = \frac{6}{2} = 3$

↳ Nulwaarde

Nulpunt $\boxed{(3,0)}$

b = Snijpunt Y-as

$2x - 6$

$\Rightarrow -6$

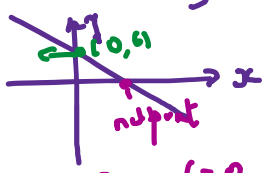
$(0,-6)$

dalende rechte

$a < 0$

$f(x) = -3x + 6$

a b



$-3x + 6 = 0$

$-3x = -6$

$x = \frac{-6}{-3} = 2$

$\Rightarrow \boxed{(2,0)}$

$-3x + 6$

$(0,6)$

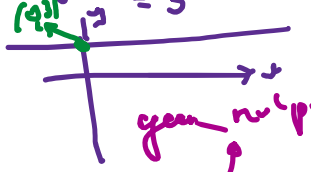
constante rechte

$a = 0$

$f(x) = 0x + 3$

a b

$= 3$



geen nulpunt

~~3=0~~

Nulpunt

Video op Youtube SCAN ME	Interactieve Oefening en

DALEND

$$\boxed{f(x) = -2x + 6}$$

$a = -2$
$b = 6$

Vorm $a < 0$ -2 $\Rightarrow$ $\boxed{\text{dalende rechte}}$

Nulpunt

$-2x + 6 = 0$
$-2x = -6$
$x = \frac{-6}{-2} = 3$

$\boxed{(3,0)}$

Snijpunt Y-as $\boxed{(0,6)}$

Domein = $\mathbb{R}$
Beeld = $\mathbb{R}$

Tekenverloop + −

x		3	
$f(x)$	+	0	−

Functieverloop ↗ ↘

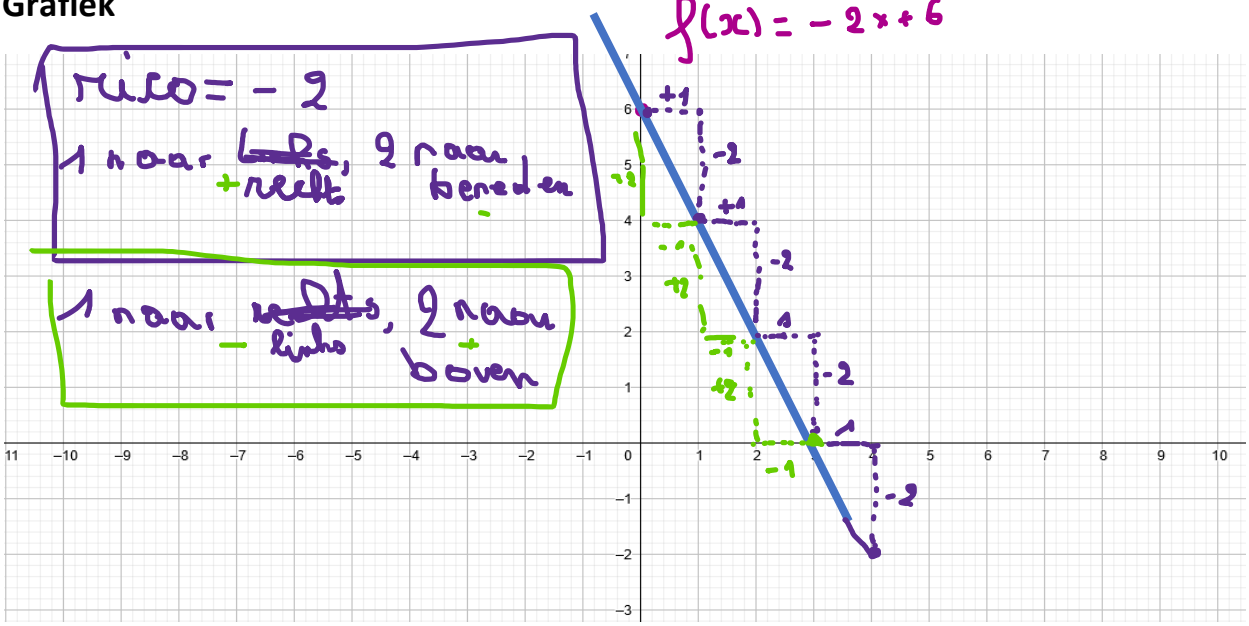
links ← → rechts

Grafiek

$f(x) = -2x + 6$

rico = −2
1 naar ~~links~~ + rechts, 2 naar beneden −

1 naar ~~rechts~~ − links, 2 naar + boven



$$f(x) = 2x + 4$$

$a = 2$
$b = 4$

Vorm

$a = 2 \Rightarrow$ Stijgende rechte

Nulpunt

$2x + 4 = 0$
$2x = -4$
$x = -\frac{4}{2} = -2$

$(-2, 0)$

Snijpunt Y-as

$(0, 4)$

Tekenverloop

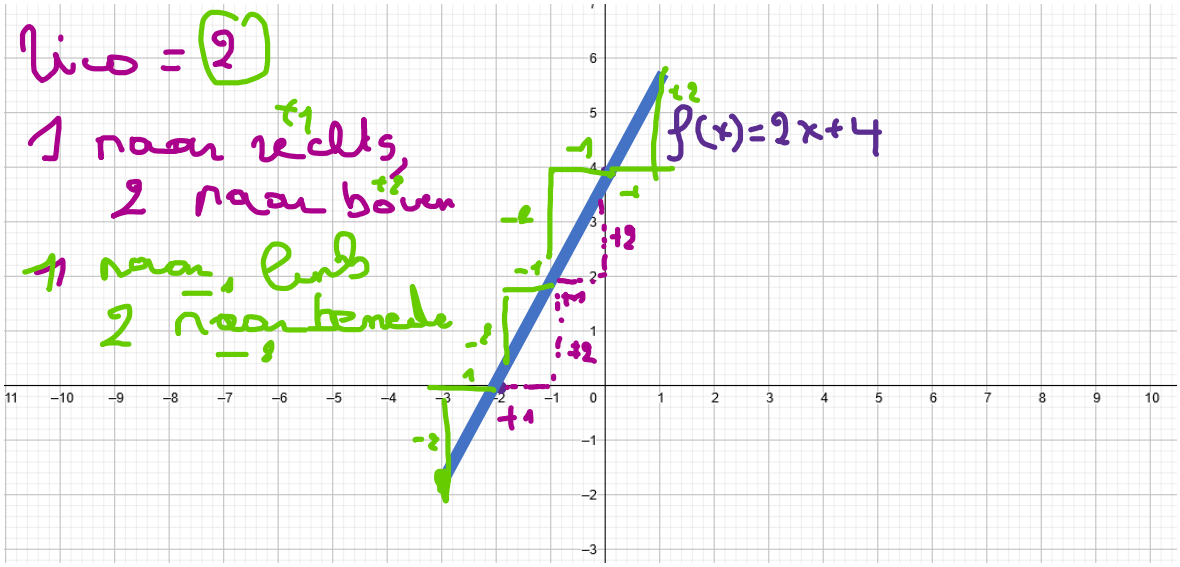
x		-2	
$f(x)$	$-$	0	$+$

Domein = $\mathbb{R}$
Beeld = $\mathbb{R}$

Functieverloop

x		
$f(x)$	↗	

Grafiek



$$f(x) = \frac{1}{3}x + 2$$

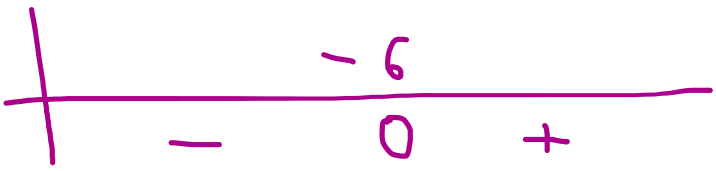
a = 1/3
b = 2

Vorm a > 0 ⇒ Stijgende rechte

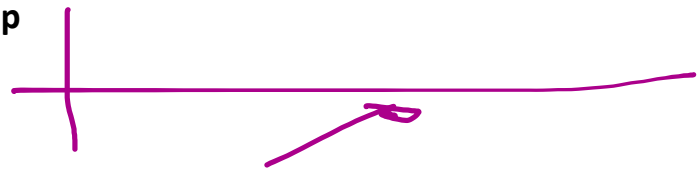
Nulpunt $\frac{1}{3}x + 2 = 0 \Rightarrow \frac{1}{3}x = -2 \Rightarrow x = -2 \cdot 3 = -6$ (−6, 0)

Snijpunt Y-as (0, 2)

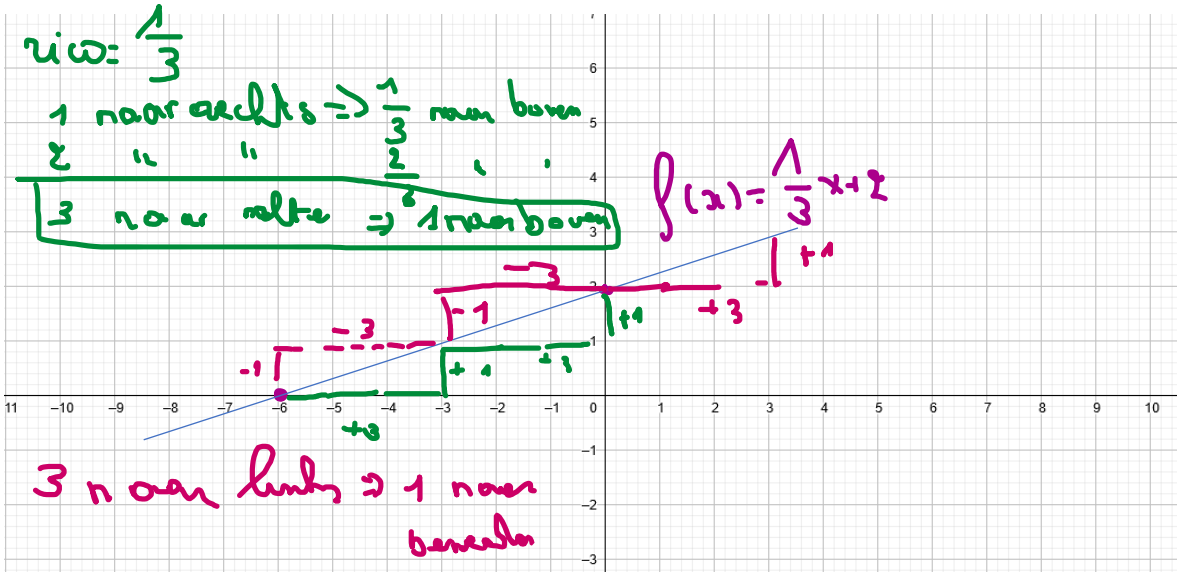
Tekenverloop



Functieverloop



Grafiek



$$f(x) = -\frac{2}{3}x + 2$$

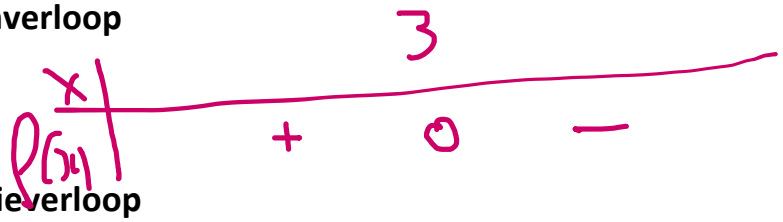
$a = -\frac{2}{3}$ $b = 2$

Vorm $a < 0 \Rightarrow$ Dalende rechte

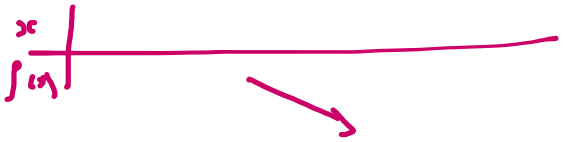
Nulpunt $-\frac{2}{3}x + 2 = 0 \Rightarrow -\frac{2}{3}x = -2 \Rightarrow -2x = -6$, $x = \frac{-6}{-2} = 3$ $(3, 0)$

Snijpunt Y-as $(0, 2)$

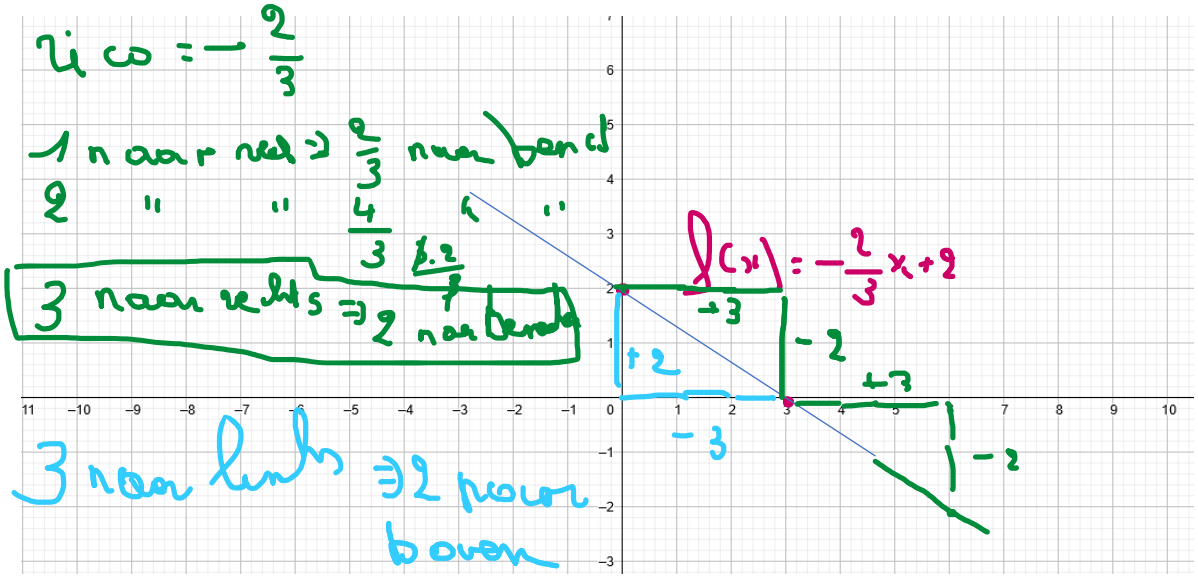
Tekenverloop



Functieverloop



Grafiek



Geef het snijpunt met de Y-as van f(x) = -2x + 17

$(0, 17)$

Geef het functieverloop van f(x) = - 3x + 12

$a = -3$

↳ Dalend

x	
$f(x)$	↘

Bepaal het nulpunt van f(x) = -13x + 28

$-13x + 28 = 0$

$-13x = -28$

$x = \frac{-28}{-13} = \frac{28}{13}$ nulwaarde

$\left(\frac{28}{13}, 0\right)$

Bepaal het tekenverloop van f(x) = -12x + 32

$-12x + 32 = 0$

$-12x = -32$

$x = \frac{-32}{-12} = \frac{-8}{-3} = \frac{8}{3}$

$\left(\frac{8}{3}, 0\right)$

$a = -12 < 0$

x		$\frac{8}{3}$	
$f(x)$	+	0	−

Teken de grafiek van f(x) = -2x + 2

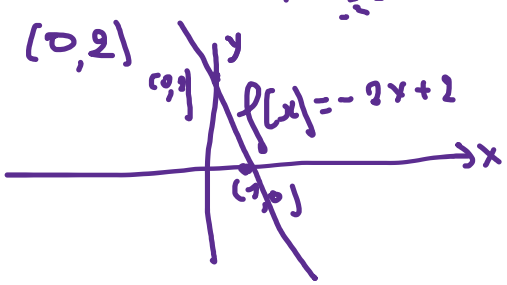
① nulpunt = $-2x + 2 = 0$

$-2x = -2$

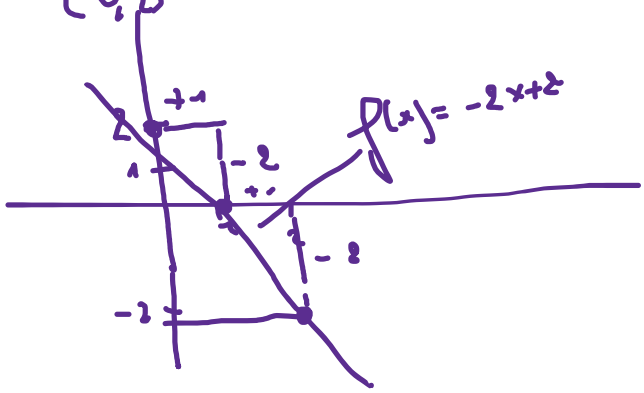
$x = \frac{-2}{-2} = 1$

$(1, 0)$

② $(0, 2)$



rico ⇒ -2

② $1 \rightarrow$, $2 \downarrow$

$(0, 2)$