

BS 6513

b) I $4x + 4y = 8$

NR zu I

$4x + 4y = 8 \quad | -4x$

II $5y + 15x = -10$

$4y = -4x + 8 \quad | :4$

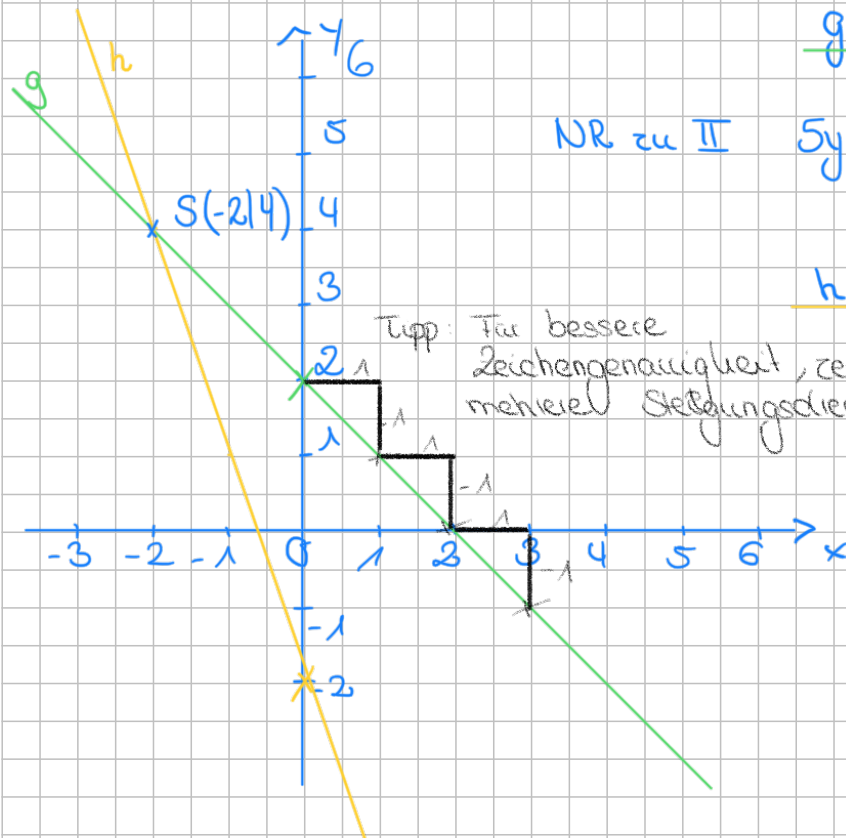
$g: y = -x + 2$

NR zu II

$5y + 15x = -10 \quad | -15x$

$5y = -15x - 10 \quad | :5$

$h: y = -3x - 2$



Tipp: Für bessere Zeichengenauigkeit, zeichnet mehrere Steigungsdreiecke.

$L = \{(-2|4)\}$

c) I $9 - 3y - 3x = 0$

II $2y - x = -9$

NR zu I $9 - 3y - 3x = 0 \quad | +3x$

$9 - 3y = 3x \quad | -9$

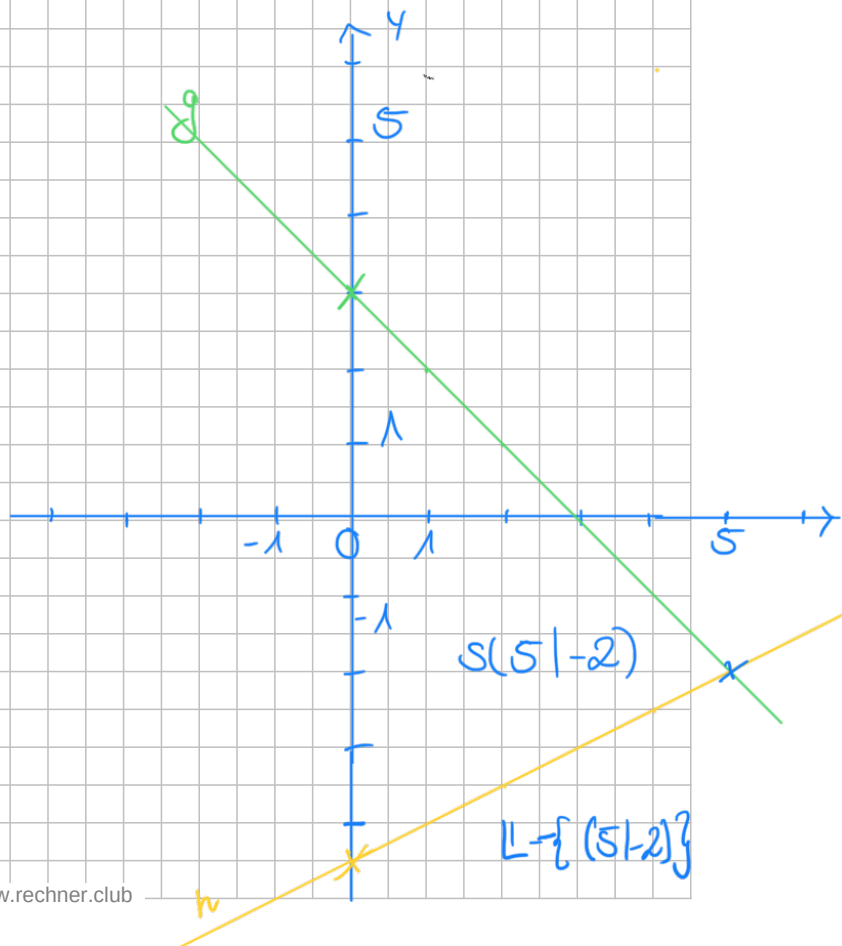
$-3y = 3x - 9 \quad | :(-3)$

$g: y = -x + 3$

NR zu II $2y - x = -9 \quad | +x$

$2y = x - 9 \quad | :2$

$h: y = \frac{1}{2}x - 4.5$



$S(5|-2)$

$L = \{(5|-2)\}$

d, I $4y + 3 = 2x$

^ II $6y - 6x = 0$

NR zu I $4y + 3 = 2x \quad | -3$

$4y = 2x - 3 \quad | :4$

g: $y = \frac{1}{2}x - \frac{3}{4}$

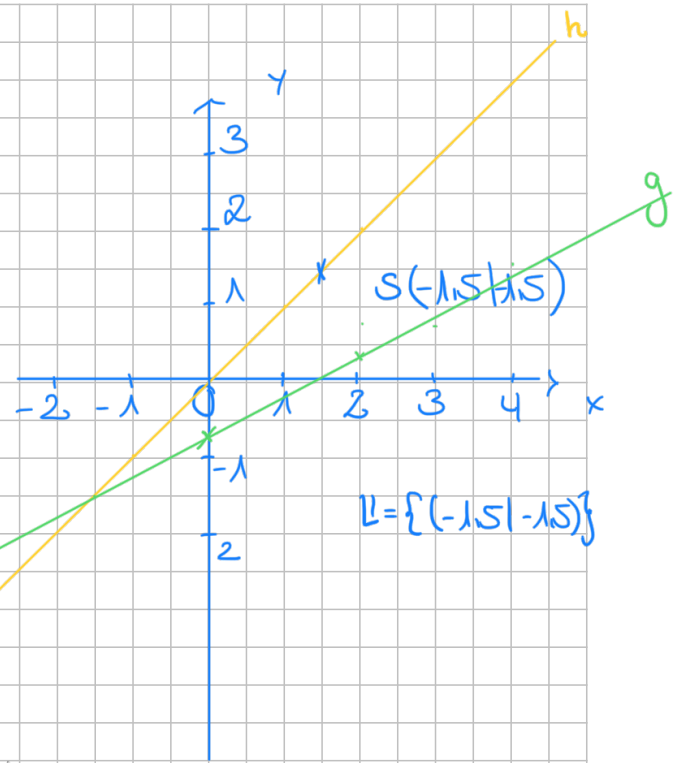
NR zu II $6y - 6x = 0 \quad | +6x$

$6y = 6x \quad | :6$

h: $y = x$

$\hookrightarrow y = m \cdot x + t$

mit $m=1$ u. $t=0$



$S(-1.5 | 1.5)$

$L = \{(-1.5 | -1.5)\}$

3.5 65/4

a) I $3x - 8y = 4$

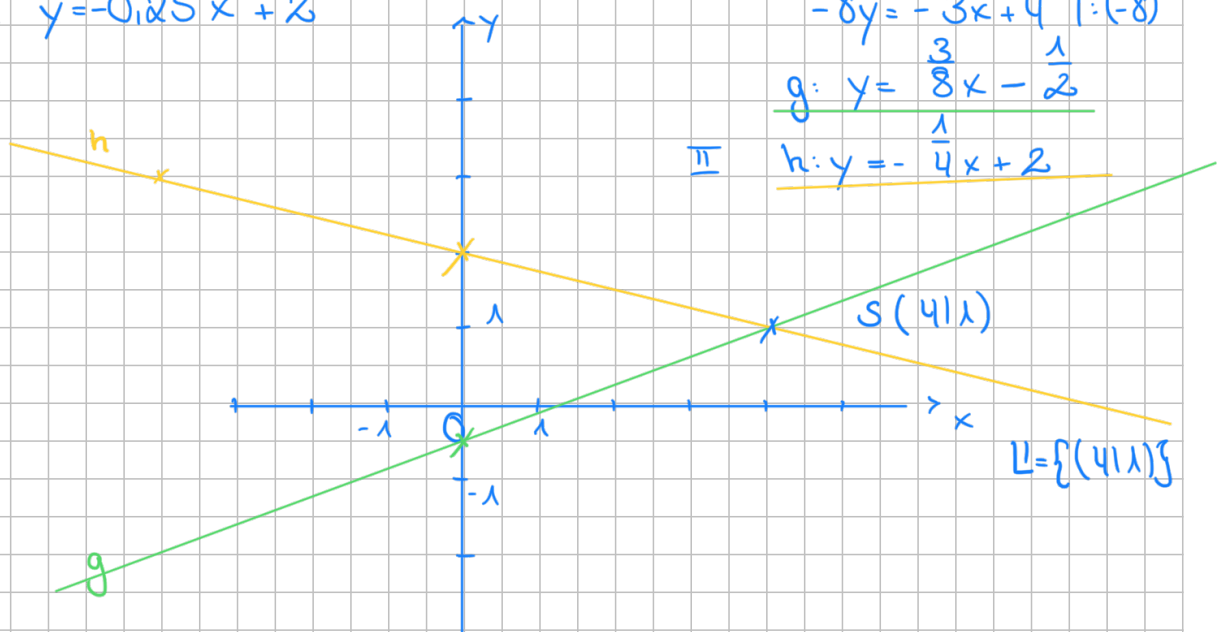
^ II $y = -0.25x + 2$

NR zu I $3x - 8y = 4 \quad | -3x$

$-8y = -3x + 4 \quad | :(-8)$

g: $y = \frac{3}{8}x - \frac{1}{2}$

II h: $y = -\frac{1}{4}x + 2$



$S(4 | 1)$

$L = \{(4 | 1)\}$

$$4b \quad \begin{array}{l} \text{I} \quad \frac{1}{3}y - 2x = -0,6 \\ \wedge \text{II} \quad y - 9,2 = -\frac{1}{9}x \end{array}$$

$$\text{NR zu I} \quad \frac{1}{3}y - 2x = -0,6 \quad | +2x$$

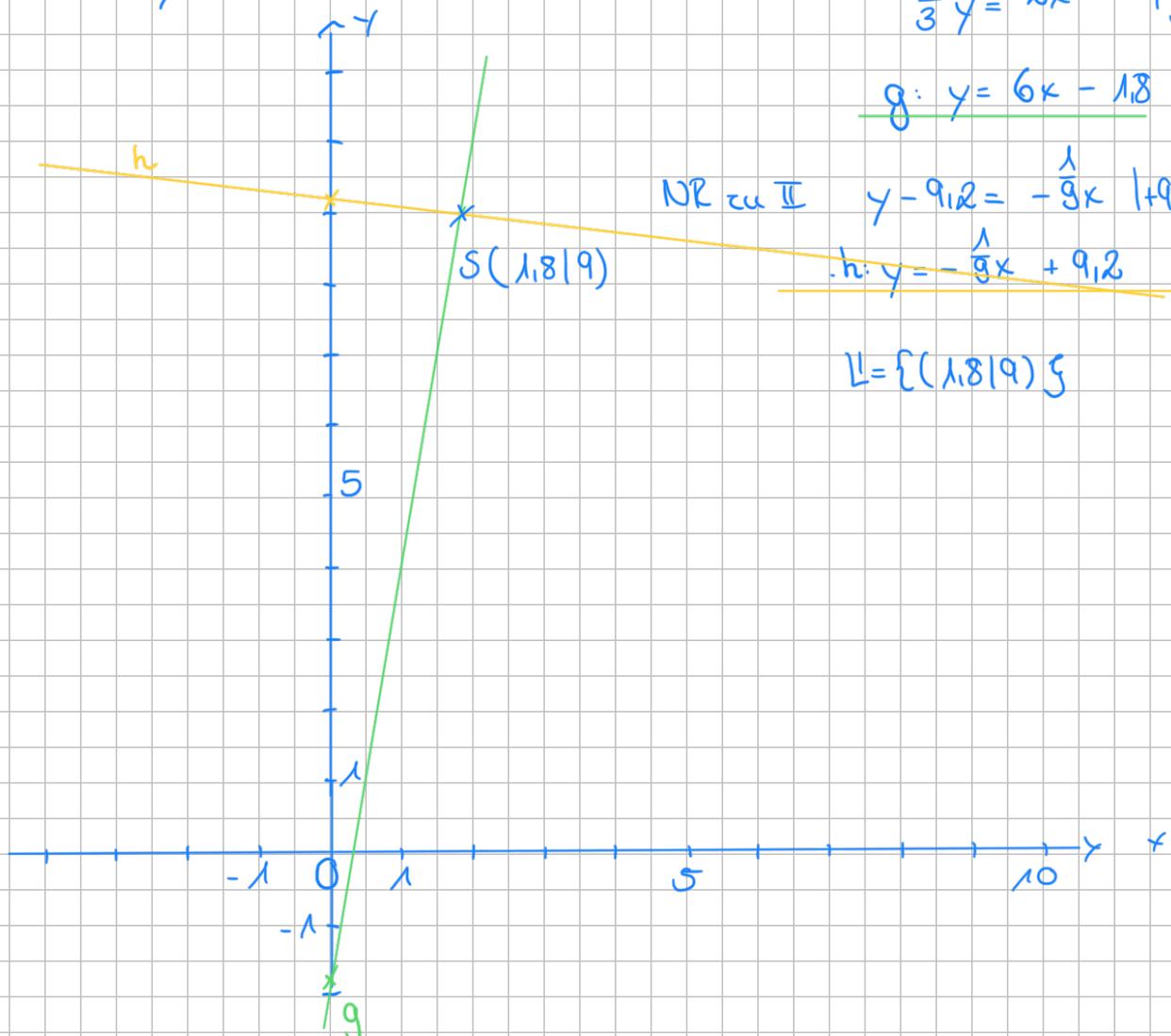
$$\frac{1}{3}y = 2x - 0,6 \quad | : \frac{1}{3}$$

$$g: y = 6x - 1,8$$

$$\text{NR zu II} \quad y - 9,2 = -\frac{1}{9}x \quad | +9,2$$

$$h: y = -\frac{1}{9}x + 9,2$$

$$L = \{(1,8 | 9)\}$$



3.8 65/5

$$b_7 \quad S(2|2) \quad \Rightarrow \quad x=2 \quad ; \quad y=2$$

$$\text{I} \quad g: y = m \cdot x + t$$

$$m = -1 \quad \text{und} \quad t = 4$$

$$\text{II} \quad h: y = m \cdot x + t$$

$$m = 1 \quad \text{und} \quad t = 0$$

$$\Rightarrow g: y = -x + 4$$

$$\Rightarrow h: y = x$$

$$\Rightarrow \text{I} \quad y = -x + 4$$

$$\wedge \text{II} \quad y = x$$

$$\int \text{Probe:} \quad \begin{array}{l} 2 = -2 + 4 \quad \checkmark \\ 2 = 2 \quad \checkmark \end{array}$$

$$c) S(-1|3) \Rightarrow x = -1 ; y = 3$$

$$\text{I } g: y = m \cdot x + t$$

$$m = \frac{\Delta y}{\Delta x} = \frac{1,5}{-1} = -1,5 \text{ und } t = 1,5$$

$$\Rightarrow g: y = -1,5x + 1,5$$

$$\Rightarrow \text{I } y = -1,5x + 1,5$$

$$\wedge \text{II } y = \frac{2}{3}x + 3\frac{2}{3}$$

Probe:

$$3 = -1,5 \cdot (-1) + 1,5 \quad \checkmark$$

$$3 = \frac{2}{3} \cdot (-1) + 3\frac{2}{3} \quad \checkmark$$

$$h: y = m \cdot x + t$$

$$m = \frac{\Delta y}{\Delta x} = \frac{4-3}{0,5-(-1)} = \frac{1}{1,5}$$

$$= \frac{2}{3}$$

Berechnung t:

$$y = m \cdot x + t$$

$$3 = \frac{2}{3} \cdot (-1) + t$$

$$3 = -\frac{2}{3} + t \quad | +\frac{2}{3}$$

$$3\frac{2}{3} = t$$

$$\Rightarrow h: y = \frac{2}{3}x + 3\frac{2}{3}$$

B.S 68/2

$$b) \text{I } 3y = x + 6$$

$$\wedge \text{II } 6y - 2x = 6$$

$$\text{NR zu I } 3y = x + 6 \quad | :3$$

$$g: y = \frac{1}{3}x + 2$$

$$\text{NR zu II } 6y - 2x = 6 \quad | +2x$$

$$6y = 2x + 6 \quad | :6$$

$$h: y = \frac{1}{3}x + 1$$

$$\Rightarrow m_g = m_h \Rightarrow g \parallel h \Rightarrow \text{keine Lösung}$$

$$\mathcal{L} = \emptyset$$

$$c, \text{ I } y = -2.5x + 4$$

NR zu I

$$g: y = -2.5x + 4$$

$$\wedge \text{ II } 3y - 1.5x = -6$$

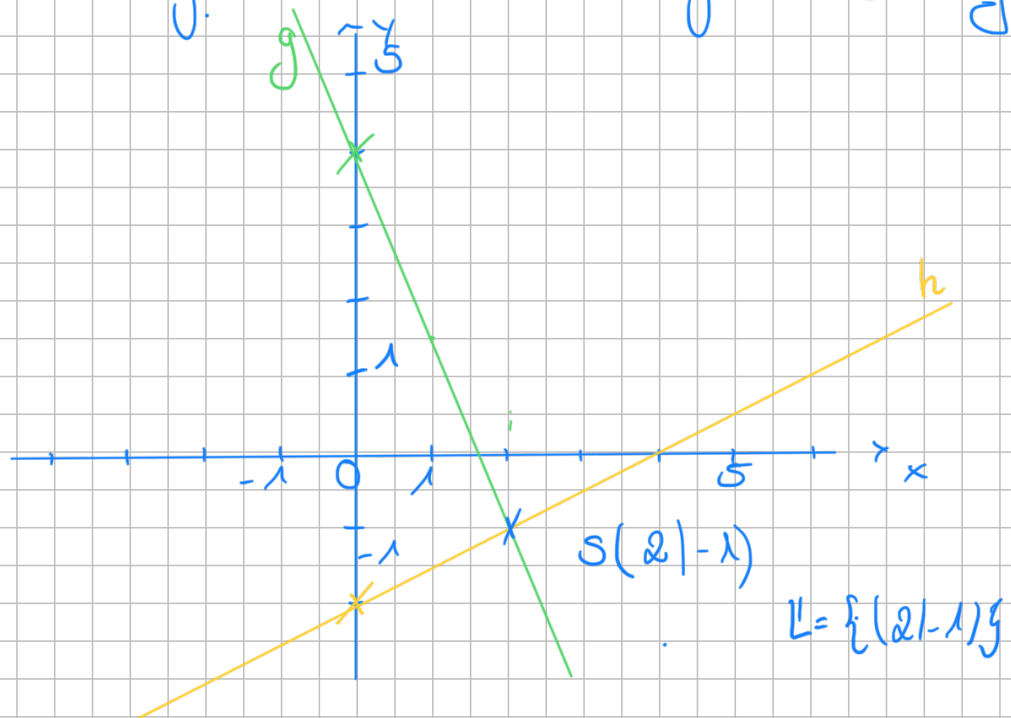
NR zu II

$$3y - 1.5x = -6 \quad | +1.5x$$

$$3y = 1.5x - 6 \quad | :3$$

$$h: y = \frac{1}{2}x - 2$$

$\Rightarrow m_g \neq m_h \Rightarrow$ Geraden schneiden sich $\Rightarrow$ genau eine Lösung



$$d, \text{ I } 1.5y - 3x = 4.5$$

NR zu I

$$1.5y - 3x = 4.5 \quad | +3x$$

$$\wedge \text{ II } 2y = 4x + 6$$

$$1.5y = 3x + 4.5 \quad | :1.5$$

$$g: y = 2x + 3$$

$$\text{NR zu II } 2y = 4x + 6 \quad | :2$$

$$h: y = 2x + 3$$

$\Rightarrow g: y = h: y \Rightarrow$ Geraden fallen zusammen $\Rightarrow$ unendlich viele Lösungen

$$L = \{(x|y) \mid y = 2x + 3\}$$