Gleichungssysteme

$$\begin{vmatrix} 2x + y = 5 \\ 4x - 2y = 10 \end{vmatrix}$$

Gleichsetzen

$4x - 2y = 10 \quad | +2y - 10$

$4x - 10 = 2y \quad | : 2$

$2x - 5 = y$

$y = -2x + 5$

$-2x + 5 = 2x - 5 \quad | + 2x + 5$

$10 = 4x \quad | : 4$

$12{,}5 = x$

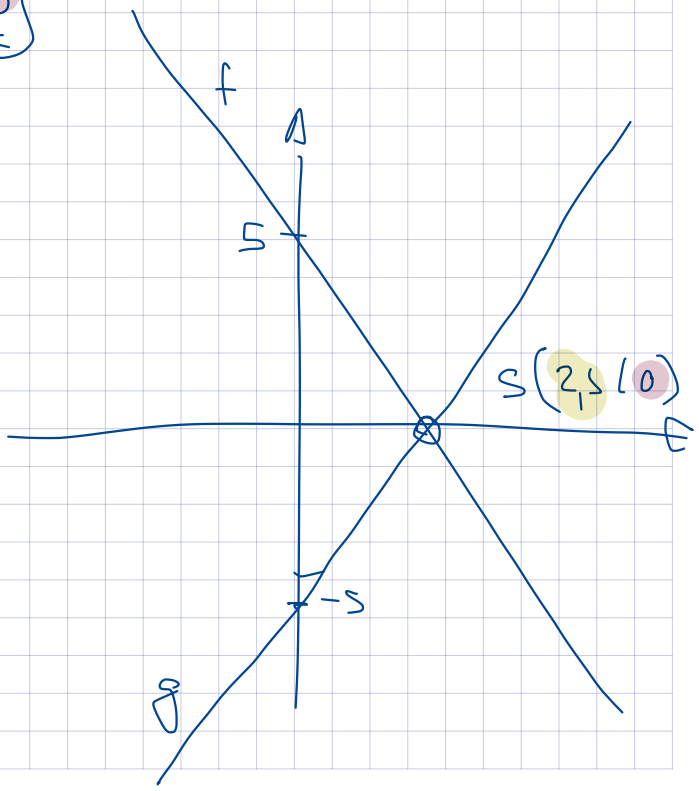
$y = -2x + 5$

$y = -2 \cdot 2{,}5 + 5$

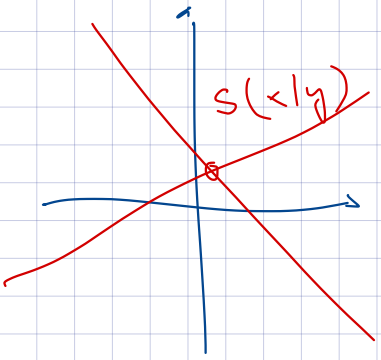
$y = 0$

$y = f(x) = -2x + 5$

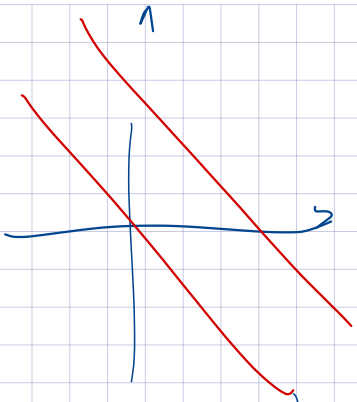
$y = g(x) = 2x - 5$



Stefan Rothe Klasse: Datum:



$x =$ $y =$ 1



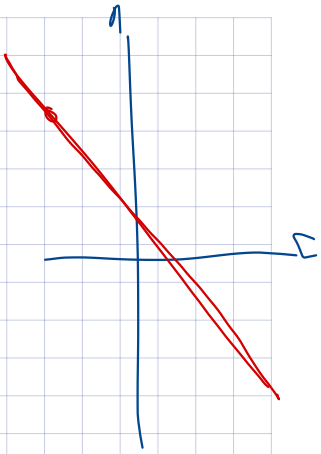
$y = -2x$

$y = -2x + 2$

$-2x = -2x + 2 \mid +2$

$0 = 2$

keine Lösung



$2y = 4x + 6$

$y = 2x + 3$

$2y = 4x + 6 \mid :2$

$y = 2x + 3$

$2x + 3 = 2x + 3 \mid -2x$

$3 = 3$

unendlich viele Lösungen

Stefan Rothe Klasse: Datum:

Einsetzen

$$\left| \begin{array}{rcl} 2x + 4y &=& 6 \\ -2x + 3y &=& -1 \end{array} \right|$$

$$-2x + 3y = -1 \quad | +1 + 2x$$

$$3y + 1 = 2x$$

$$2x + 4y = 6$$

$$3y + 1 + 4y = 6 \quad | -1$$

$$7y = 5 \quad | :7$$

$$y = \frac{5}{7}$$

$$2x = 3 \cdot \frac{5}{7} + 1 \quad | :2$$

$$x = \frac{15}{14} + \frac{1}{2} = \frac{15}{14} + \frac{7}{14} = \frac{22}{14}$$