

Untersuchung linearer Funktionen

Gruppe 1

$$y = 3x - 1$$

monoton steigend

$$0 = 3x - 1 \quad /+1$$

$$0 = -x + 3 \quad /-3$$

$$y = -x + 3$$

monoton fallend

$$1 = 3x \quad /:3$$

$$-3 = -x \quad /:(-1)$$

$$x = 1/3$$

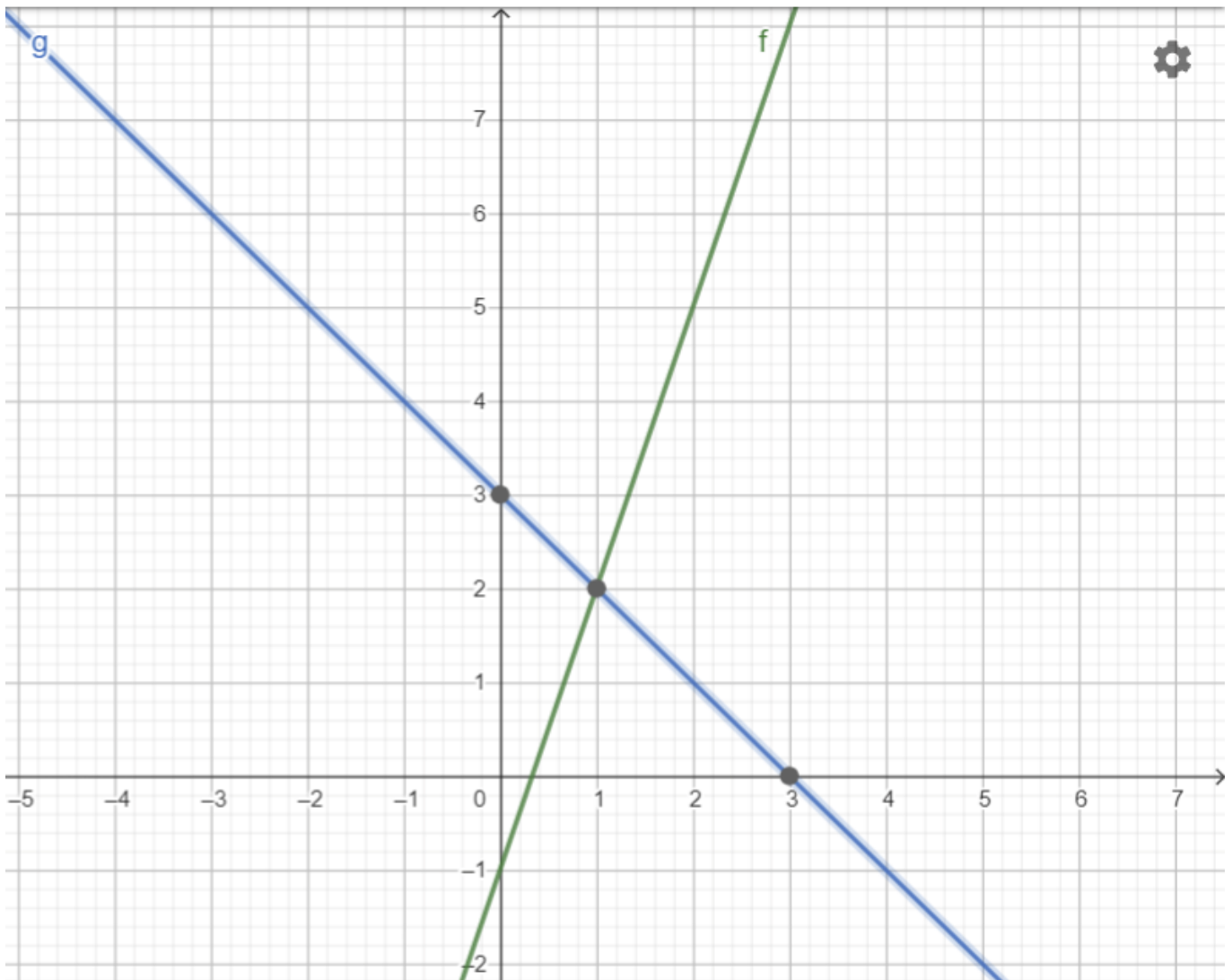
$$x = 3$$

x	-2	-1	0	1	2
y = 3x - 1	-7	-4	-1	2	5

SY (0|-1)

x	-2	-1	0	1	2
y = -x + 3	5	4	3	2	1

SY (0|+3)



S(1|2)

Gruppe 2

$y = 4x + 2$

monoton steigend

$0 = 4x + 2 \quad /:-2$

$0 = -2x - 4 \quad /+4$

$y = -2x - 4$

monoton fallend

$-2 = 4x \quad /:4$

$4 = -2x \quad /:(-2)$

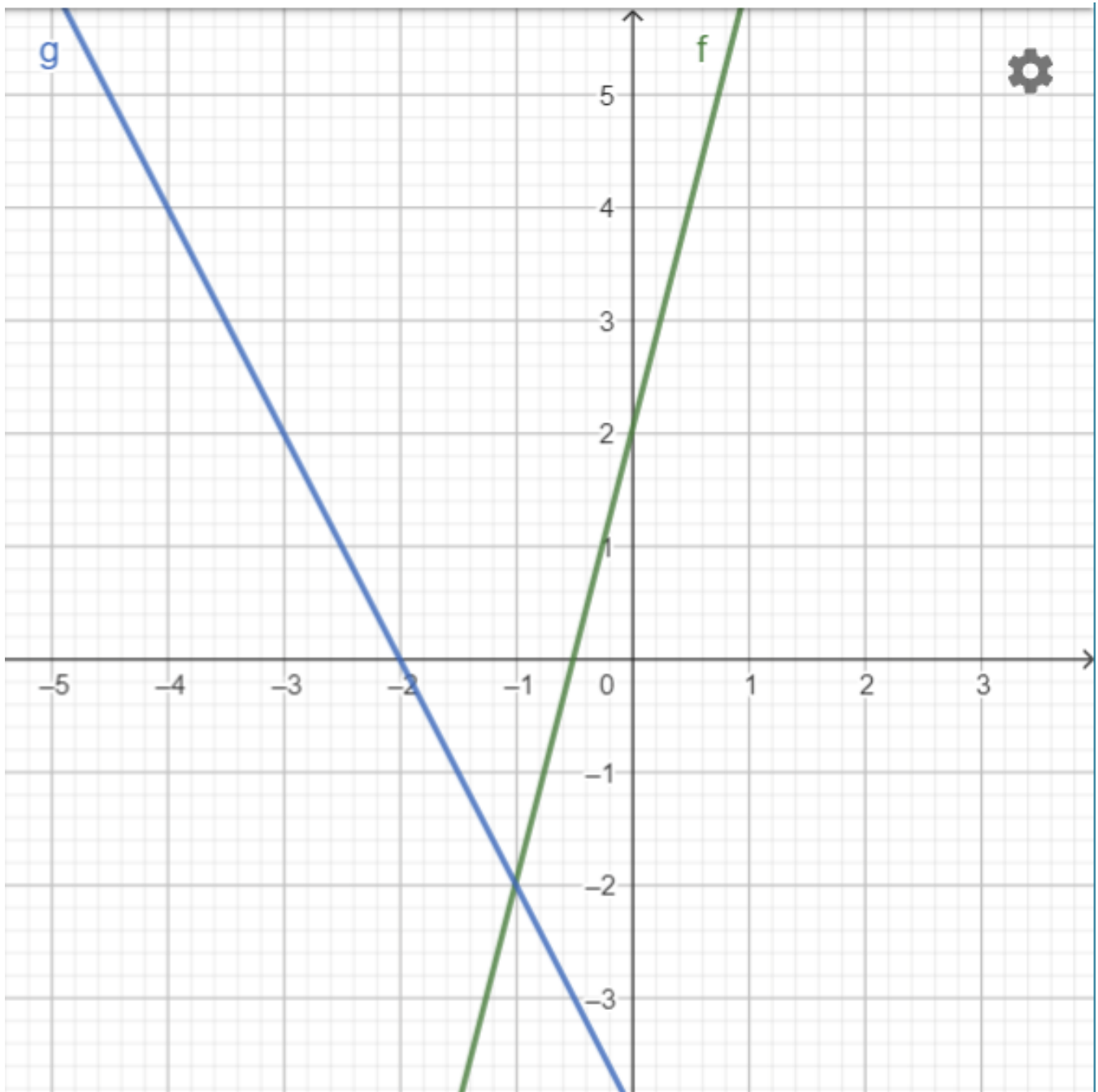
$x = -0,5$

$x = -2$

x	-2	-1	0	1	2
$y = 4x + 2$	-6	-2	2	6	10

SY (0|+2)

x	-2	-1	0	1	2
$y = -2x - 4$	0	-2	-4	-6	-8

SY (0|-4)**S (-1 | -2)**

Gruppe 3

$y = 2x + 2$

monoton steigend

$0 = 2x + 2 \quad /:-2$

$0 = -x - 4 \quad /+4$

$y = -x - 4$

monoton fallend

$-2 = 2x \quad /:2$

$4 = -x \quad /:(-1)$

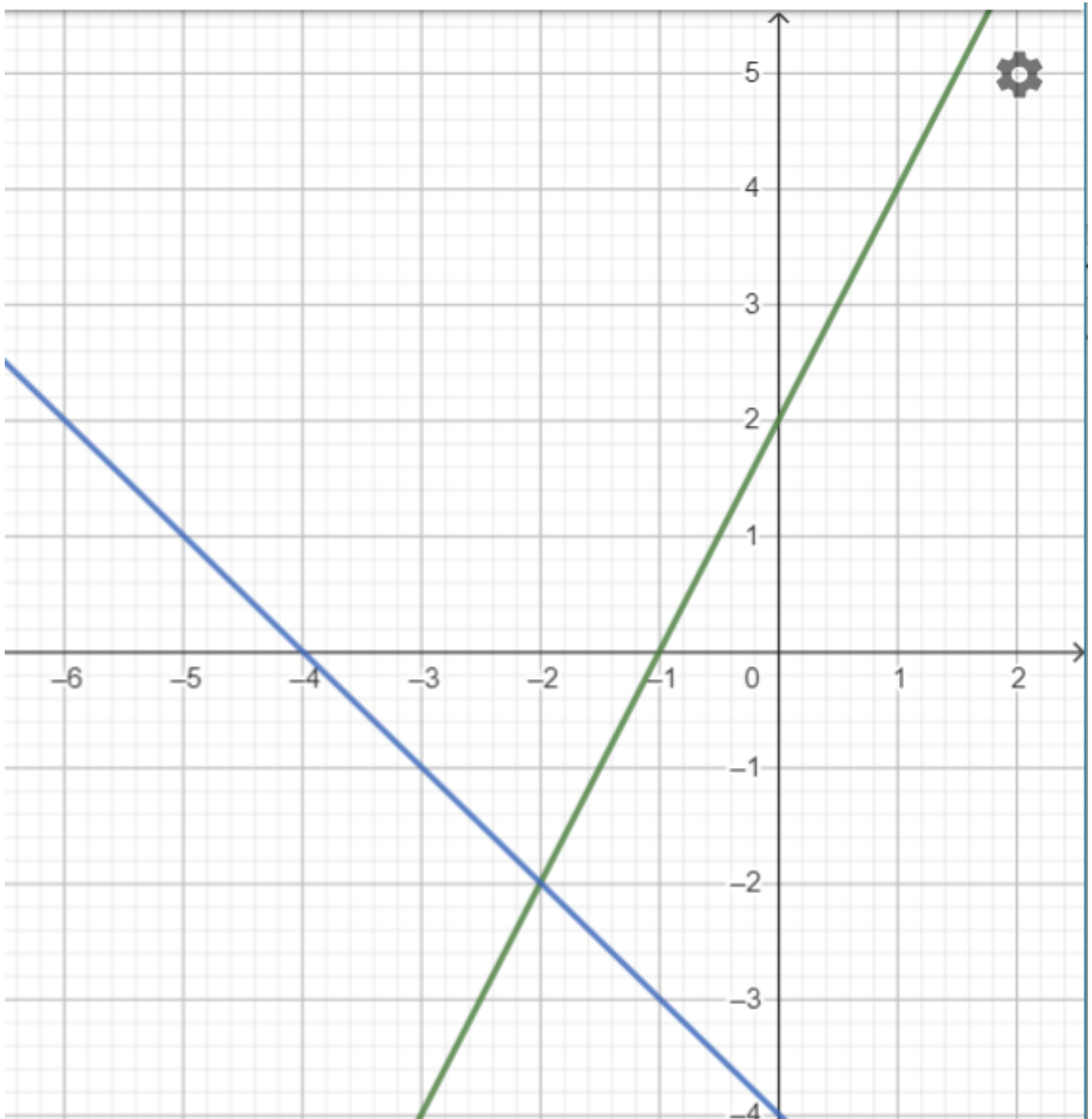
$x = -1$

$x = -4$

x	-2	-1	0	1	2
y = 2x + 2	-2	0	2	4	6

SY (0|+2)

x	-2	-1	0	1	2
y = -x - 4	-2	-3	-4	-5	-6

SY (0|-4)**S (-2 | -2)**

Gruppe 4

$y = -6x - 1$

monoton steigend

$0 = -6x - 1 \quad /+1$

$0 = x + 6 \quad /-6$

$y = x + 6$

monoton fallend

$1 = -6x \quad /: (-6)$

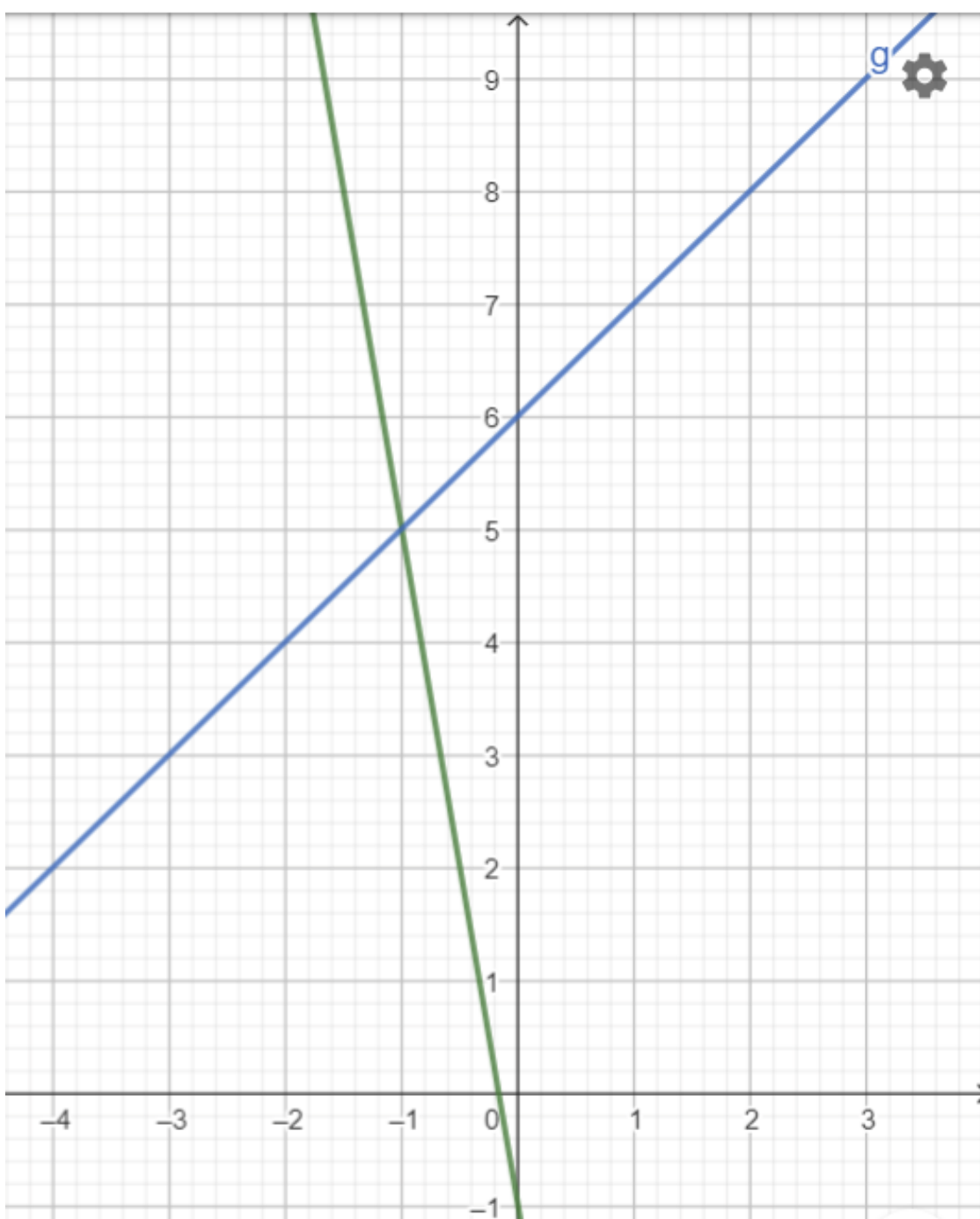
$-6 = -x$

$x = -1/6 \quad -0,1666667 \quad x = -6$

x	-2	-1	0	1	2
y = -6x - 1	11	5	-1	-7	-13

SY (0|-1)

x	-2	-1	0	1	2
y = x + 6	4	5	6	7	8

SY (0|6)**S(-1 | 5)**

Gruppe 5

$y = 5x - 2$

monoton steigend

$0 = 5x - 2 \quad /+2$

$0 = -x + 4 \quad /-4$

$y = -x + 4$

monoton fallend

$2 = 5x \quad /:(5)$

$-4 = -x \quad /:(-1)$

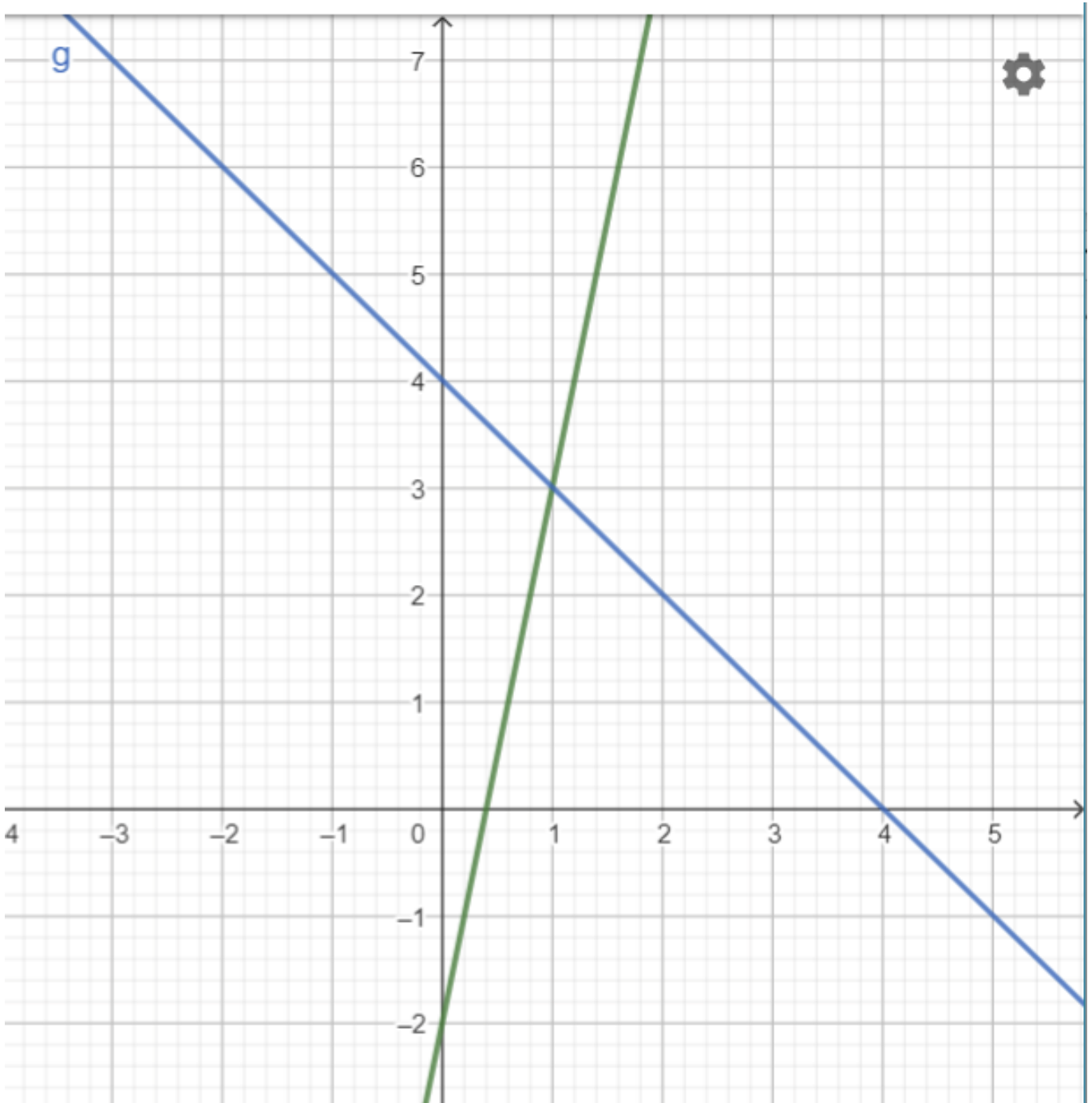
$x = 0,4$

$x = 4$

x	-2	-1	0	1	2
$y = 5x - 2$	-12	-7	-2	3	8

SY (0|-2)

x	-2	-1	0	1	2
$y = -x + 4$	6	5	4	3	2

SY (0|4)**S(1|3)**