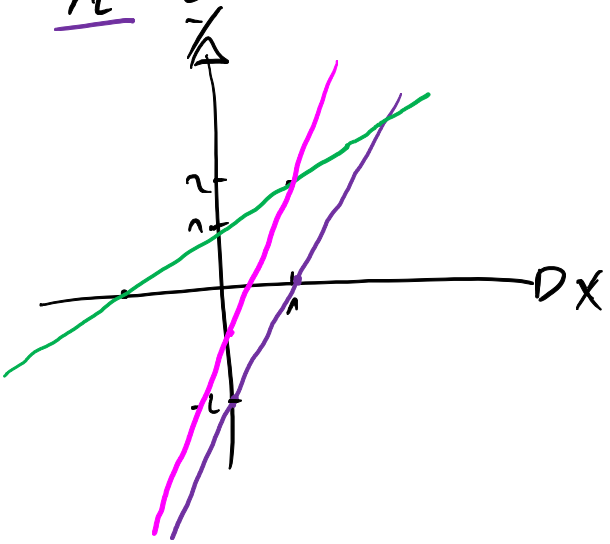
Kapitel 1.2

$y_1 = x + 1$

$y_2 = 2x - 2$

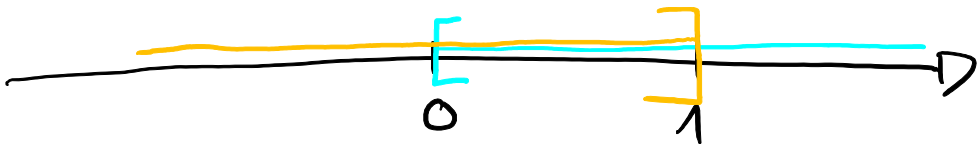


$y_1 + y_2 = 3x - 1 = x + 1 + 2x - 2$

$f(x) = \sqrt{x}$ $\quad$ D: $x \geq 0$

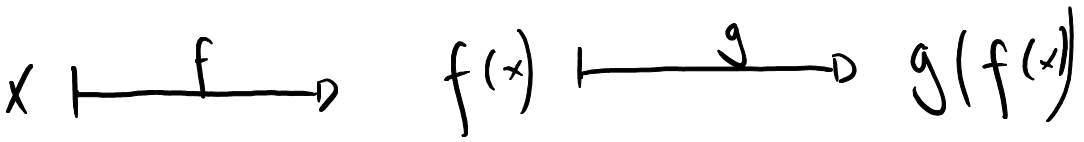
$g(x) = \sqrt{1-x}$ $\quad$ D: $x \leq 1$

$(f+g)(x) = \sqrt{x} + \sqrt{1-x}$ $\quad$ D: $[0,1]$



$\left(\frac{f}{g}\right)(x) = \frac{\sqrt{x}}{\sqrt{1-x}} = \sqrt{\frac{x}{1-x}}$ $\quad$ D: $[0,1[$

Verkettung



$g(f(x)) = (g \circ f)(x)$

↑ Verkettung „Kringel" → gelesen: „g nach f"

1.6

$f(x) = \sqrt{x}$ $\quad$ $g(x) = x + 1$

① $(f \circ g)(x) = f(g(x))$

$f(g) = \sqrt{g}$

$f(x) = \sqrt{x+1}$

② f: nimm die Quadratwurzel

$f(g(x)) = \sqrt{x+1}$

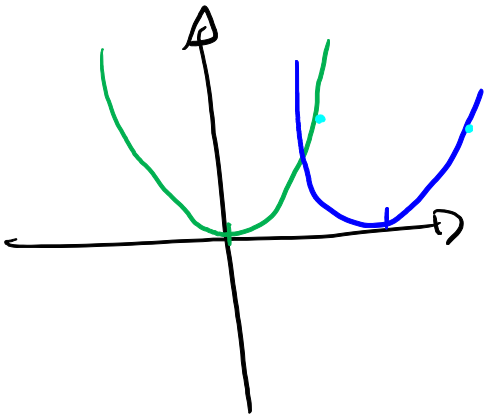
Verschiebung

Vertikale

$y_1 = x^2$ $\quad y_2 = x^2 + 1$

x	y_1	y_2
-2	4	5
-1	1	2
0	0	0
1	1	2
2	4	5

Horizontale:



Stauchung & Streckung

$y_1 = x^2$ | $y_2 = x^2 + x^2 = 2x^2$ | $y_7 = 2x^2 = 4x^2$ | $y_6 = \frac{1}{2}x$

·2 ·0.5

x	y_1	y_2	$y_3 = -x$	$y_4 = -2x$	y_5	y_6
−2	4	10	−4	−10	16	1
−1	1	4	−1	−4	4	$\frac{1}{4}$
0	0	0	0	0	0	0
1	1	4	−1	−4	4	$\frac{1}{4}$
2	4	10	−4	−10	16	1