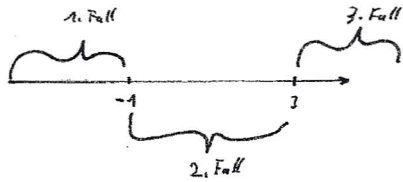


1.1.4

c)

$$|x - 3| < |x + 1|$$



1. Fall	2. Fall	3. Fall
$x \leq (-1)$	$-1 < x \leq 3$	$x > 3$
$-(x - 3) < -(x + 1)$	$-(x - 3) < x + 1$	$x - 3 < x + 1$
$-x + 3 < -x - 1$	$-x + 3 < x + 1$	$-3 < x + 1$
$4 < 0$ f.A.	$1 < x$	$-3 < 1$ w.A.
$L_1 = \emptyset$	$L_2 = (1, 3]$	$L_3 = (1, \infty)$

$$L = L_1 \cup L_2 \cup L_3$$

$$L = (1, \infty)$$

Signum:

$$(x + 1)^2 = 4$$

$$\Leftrightarrow |x + 1| = 2$$

$$\Leftrightarrow x + 1 = 2 \vee x + 1 = -2$$

$$x = 1 \vee x = -3$$

$$\text{Für } x \neq 0 \text{ ist } \frac{x}{|x|} = \begin{cases} \frac{x}{x} = 1, \text{ wenn } x > 0 \\ \frac{x}{-x} = -1, \text{ wenn } x < 0 \end{cases} = \text{sgn}(x)$$