

$x_i$  ARE ALWAYS IN  $\mathbb{R}^n$

IF  $i = 1$ ,  $x_1 < 0$

$$\sum_{i=1}^1 |x_i| = |x_1| > 0$$

THEN IF  $\forall x_i < 0$

X

IF YOU BRING  
IN ANOTHER

$x_i$ , SAY  $x_2$ ,  
ALSO  $< 0$

$$\Rightarrow |x_1| + |x_2|$$

$$\sum_{i=1}^2 |x_i| > 0$$