

DEFINITION

\mathbb{Z}

-1 solution to $x+1=0$

-n • repeated addⁿ of -1, starting from 0

• solution to $x+n=0$
"additive inverse of n"

$n \in \mathbb{N}$

MULTIPLICATION

Example

Neg One 3's

Meanings

• Additive inverse of 3
(Soln to $x+3=0$)

Neg. Five 3's

• Additive inverse of Five 3's
-(Five 3's)

• Repeated subⁿ of 3, starting from 0
-3-3-3-3-3

EXPONENTIATION

Example

Meanings

a^{-1}

• Multiplicative inverse of a
(Soln to $xa=1$)

a^{-5}

• Multiplicative inverse of a^5

$\frac{1}{a^5}$

• Repeated division by a, starting from 1.
((((1/a)/a)/a)/a)/a