

**abs()** — Absolute value (length)

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## Description

For  $Z$  real, `abs( $Z$ )` returns the elementwise absolute values of  $Z$ .

For  $Z$  complex, `abs( $Z$ )` returns the elementwise length of each element. If  $Z = a + bi$ , returned is `sqrt( $a^2 + b^2$ )`, although the calculation is not made in that way. The method actually used prevents overflow.

## Syntax

*real matrix*   `abs(numeric matrix  $Z$ )`

## Conformability

`abs( $Z$ )`:

<i>Z</i> :	$r \times c$
<i>result</i> :	$r \times c$

## Diagnostics

`abs(.)` returns . (missing).

## Also see

[\[M-4\] scalar](#) — Scalar mathematical functions