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Basic Properties of Real Numbers — Requirements

Library Committee
Association of Mizar Users

Summary. This file contains statements which are obvious for Mizar checker if "requirements REAL" is included in the environment description of an article. "requirements NUMERALS" is also required. They are published for testing purposes only. Users should use appropriate requirements instead of referencing to these theorems. Statements which cannot be expressed in Mizar language are commented out. Some of these items need also other requirements for proper work.

MML Identifier: REAL.

WWW: http://mizar.org/JFM/Vol-3/real.html

In this paper x, y denote real numbers.
Next we state several propositions:

(1) If $x \leq y$ and x is positive, then y is positive.

(2) If $x \leq y$ and y is negative, then x is negative.

(3) If $x \leq y$ and x is non negative, then y is non negative.

(4) If $x \leq y$ and y is non positive, then x is non positive.

(5) If $x \leq y$ and y is non zero and x is non negative, then y is positive.

(6) If $x \leq y$ and x is non zero and y is non positive, then x is negative.

(7) If $x \not\leq y$ and x is non positive, then y is negative.

(8) If $x \not\leq y$ and y is non negative, then x is positive.

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