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Basic Properties of Subsets — Requirements

Library Committee
Association of Mizar Users

Summary. This file contains statements which are obvious for Mizar checker if "requirements SUBSET" is included in the environment description of an article. They are published for testing purposes only. Users should use appropriate requirements instead of referencing to these theorems. Some of these items need also "requirements BOOLE" for proper work.

MML Identifier: SUBSET.

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

The articles [2], [3], and [1] provide the notation and terminology for this paper.

One can prove the following propositions:

(1) For all sets a, b such that $a \in b$ holds a is an element of b.

(2) For all sets a, b such that a is an element of b and b is non empty holds $a \in b$.

(3) For all sets a, b holds a is an element of 2^b iff $a \subseteq b$.

(4) For all sets a, b, c such that $a \in b$ and b is an element of 2^c holds a is an element of c.

(5) For all sets a, b, c such that $a \in b$ and b is an element of 2^c holds c is non empty.

REFERENCES

[1] Czesław Byliński. Some basic properties of sets. *Journal of Formalized Mathematics*, 1, 1989. http://mizar.org/JFM/Vol1/zfmisc_1.html.

[2] Andrzej Trybulec. Tarski Grothendieck set theory. *Journal of Formalized Mathematics*, Axiomatics, 1989. http://mizar.org/JFM/Axiomatics/tarski.html.

[3] Zinaida Trybulec. Properties of subsets. *Journal of Formalized Mathematics*, 1, 1989. http://mizar.org/JFM/Vol1/subset_1.html.

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