

Re: Set existence

Source: <http://sci.tech-archive.net/Archive/sci.math.research/2008-02/msg00061.html>

- *From:* tchow@xxxxxxxxxxxxxx
 - *Date:* Thu, 14 Feb 2008 18:30:04 +0000 (UTC)
-

In article <fovgfv\$jni\$1@xxxxxxxxxxxxxxxx>, <malcobe@xxxxxxxx> wrote:

What does it mean that ZFC has an uncountable model? Doesn't it mean that from ZFC axioms we can formally prove the existence of a set (or class) M and a relation (or set-theoretic relation) R such that every axiom of ZFC is true under the interpretation?

It means that there is an uncountable set (not a class) and a relation such that every axiom of ZFC is true under the interpretation.

It does **not** mean that **from the ZFC axioms we can formally prove [blah]**. That assertion would be "ZFC can prove that ZFC has an uncountable model," not "ZFC has an uncountable model." "ZFC proves x " is a distinct assertion from x itself.

—
Tim Chow tchow-at-alum-dot-mit-dot-edu
The range of our projectiles— even ... the artillery— however great, will never exceed four of those miles of which as many thousand separate us from the center of the earth. — Galileo, Dialogues Concerning Two New Sciences

.