1035-Q1-25 Andrew G. Borden* (borden@wireweb.net), 8027 Robbins Glade, Converse, TX 78109. Mathematics is a Meme(plex).

A meme is a cultural pattern of activities or beliefs which is replicable and which can be propagated among contemporaries and from one generation to another. It is sometimes volatile in the early generations of propagation. Religious beliefs and practices are examples of memes. Memes occur and survive because they satisfy certain human needs. Memeplexes are clusters of related memes. We have done a simulation of memeplex robustness and survivability. Pure mathematics receives a high score from our model. It is clearly a robust memeplex and exists independent of meaning or truth. Among the different possible philosophical characterizations of mathematics, we consider it to be a social construct. We use a category theoretical argument to explain the relationship between pure and applied mathematics and to attempt to explain the "Unreasonable Usefulness of Mathematics in the Natural Sciences". (Received May 25, 2007)