1067-T1-712 **Jeff Buechner*** (buechner@rci.rutgers.edu), Dept of Philosophy Conklin Hall 432, 175 University Avenue, Rutgers University, Newark, NJ 07102. *Mathematical Understanding and Philosophies of Mathematics*. Preliminary report.

I will argue that there are theorems in mathematics whose understanding (both in a psychological and a philosophical sense) depends upon holding a certain philosophy of mathematics. Are there any theorems common to all philosophies of mathematics which can be understood within any mathematical philosophy? Yes: there are theorems of elementary number theory that we understand only when we have a de re attitude toward natural numbers, regardless of which mathematical philosophy one holds. However, if we have only a de dicto attitude toward the natural numbers, we might not understand those theorems. This suggests a pedagogical strategy for both teaching and learning mathematical and also creates a philosophical problem: how can we explain those areas of mathematical practice on which all mathematical philosophies agree and then show how in extensions of that practice different mathematical philosophies differ as to the content of the set of theorems of those extensions. Finally, are there any theorems common to all philosophies of mathematics which can only be understood within a particular mathematical philosophy? I provide an example of one theorem, which draws on the work of Harvey Friedmans program of Boolean Relation Theory. (Received September 14, 2010)