1126-03-227 **Russell Miller*** (russell.miller@qc.cuny.edu), Mathematics Dept. – Queens College, 65-30 Kissena Blvd., Queens, NY 11367. *Relatively simple sets and subrings of* $\mathbb{Q}$.

A computably enumerable set S is *relatively simple* if it is undecidable and every c.e. set which can enumerate an infinite subset of the complement $\overline{S}$ can in fact compute S. We will use such sets to show that, if there is a c.e. set C which cannot be computed by $HTP(\mathbb{Q})$, then there is a polynomial f which gives a diophantine definition (over $\mathbb{Z}$) of a set S Turing-equivalent to C, but for which $HTP(\mathbb{Q})$ cannot even begin to enumerate the complement of S. (Received January 14, 2017)