Problem #55

Originator: Richard Statman
Date: June 1993

Summary: In the λ-calculus, which sets have the form $\{M | Q \rightarrow^* PM\}$?

It has been proved that (in λ-calculus or Combinatory Logic) every recursively enumerable set of ground terms that is closed under conversion has the form $\{M | PM \leftrightarrow^* Q\}$ for some P and Q. Which sets have the form $\{M | Q \rightarrow^* PM\}$?

January 22, 2014