Problem 5: The Firetruck

USMA D/Math Problem of the Week

Submission Deadline: October 18, 2007 at 1600

Circle one:	[cadet]	[faculty]	[non-usma student]	[non-usma faculty]	[other]

Problem Statement: Toddler toys often come equipped with holes and blocks in various shapes. I recently purchased a toy firetruck for my son with three holes: a 2x2in square, a 2in diameter circle, and an isosceles triangle with base and height both 2in. What is the volume of the *largest possible* solid which (i) can be cut from a 2in cube, and (ii) will pass through all three holes?

Submit your answer to Dr. Elisha Peterson at ae3263@usma.edu as an attachment to your email, with the subject line **WP POTW**. Or drop your solution off in my mailbox or on my desk (with date and time please!)