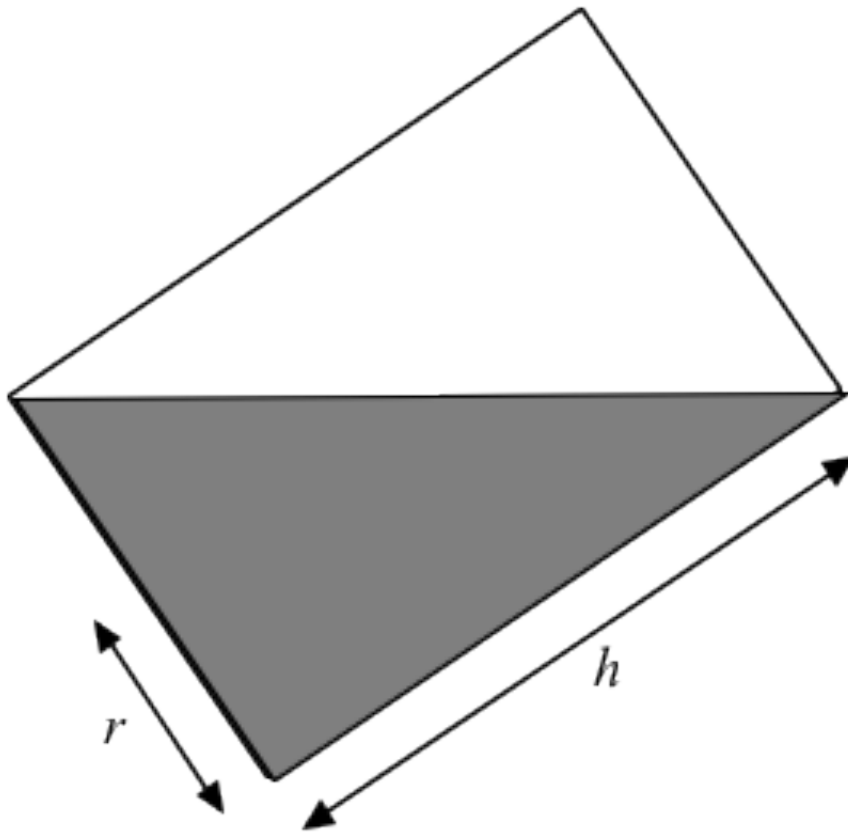## Mathematics 1100Y – Calculus I: Calculus of one variable
Trent University, Summer 2010

Assignment #6
Glass half-full?
Due on Wednesday, 23 June, 2010.

A cylindrical glass of (interior) radius r and height h is filled with water and then tilted, causing some of the water to pour out, until the remaining water in the glass just barely covers the base of the glass. Here's a side view:

1. Find the volume of the water remaining in the glass without using calculus. *[2]*

2. Find the volume of the water remaining in the glass using calculus. *[8]*