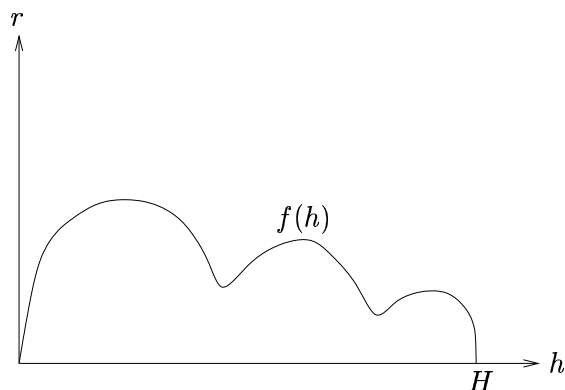


3. (10 points) The cross-sections of a snowman are given by circles of radius $r = f(h)$ where h is the height measured from the ground and $f(h)$ has graph given in the figure. Both r and h are measured in inches.



(a) Draw and label a typical, thin, cross-section of the snowman. What is the volume of the cross-section (in terms of the function $f(h)$)?

(b) Write an integral in terms of $f(h)$ whose value is the total amount of snow used in making the snowman.