## MAT125, Paper Homework "Box"

An open, divided box is to be constructed from three square pieces of wood and three rectangular ones. The rectangular pieces will be used for the top, bottom and back, while the squares will form the ends and the divider.


1. Suppose the box is constructed from a total of 9 square feet of wood (and none is wasted). Let $h$ represent the length of one of sides of the square pieces. Write an expression for the volume of the box in terms of $h$.
2. What are the dimensions of the box that have the maximal volume? Be sure to justify why your answer is the maximim.
