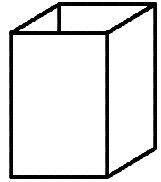


Quiz #3

SHOW YOUR WORK

Clovis is building a box to keep his newts in (see picture). The box has a square base which will be made of sheet metal at a cost of \$3 a square foot. The sides will be made of pine, which costs \$2 a square foot. The box does not have a top.



(a) (3 points) Label the width of the base w and the height of the box h . Give an equation relating the cost C of building the box to h and w .

(b) (2 points) The box must have a volume of 24 cubic feet. Express this fact in an equation involving h and w .

(c) (3 points) Find a function in the variable w alone that computes the cost to build the box.

(d) (2 points) What is the cost of a box with a 9 square foot base? What are its dimensions?