

Name: \_\_\_\_\_

Date: \_\_\_\_\_

Instructions: Though calculators can be used for this daily question, you are required to show your work. To receive full credit, answers must have proper justification. Round dimensions to 2 decimal places as needed.

1. Suppose you are using two different materials to make a rectangular box with a square base. The material for the top and the four sides costs \$1 per square foot. The material for the base of the box costs \$2 per square foot. Find the dimensions of the box that maximizes volume if you are allowed \$144 for the materials.