

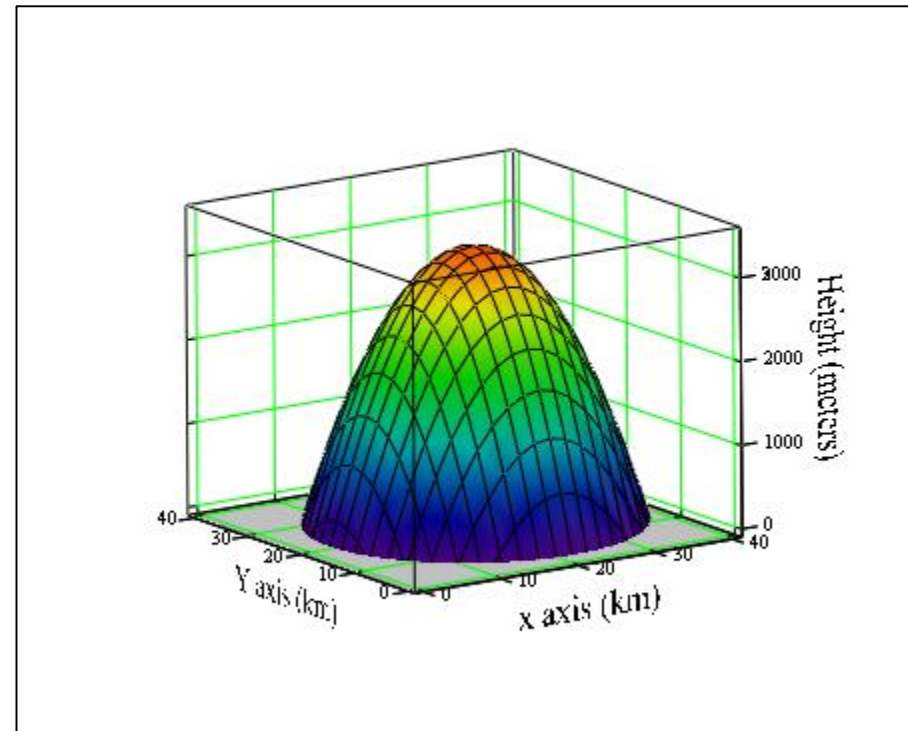
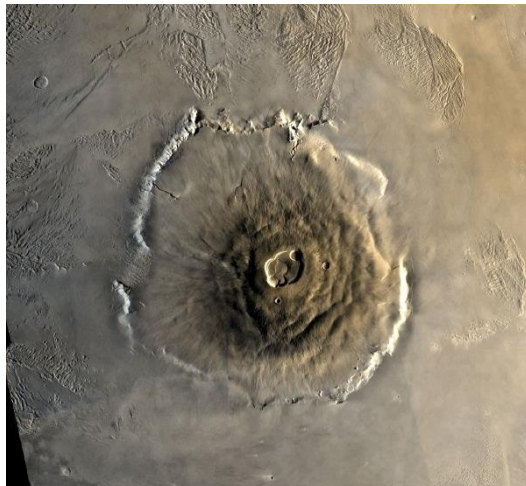
The height (in meters) of large mountain on Mars can be accurately predicted by the function $h(x,y)$ where x is the east-west direction (in km) while y is the north-south direction (in km).

$$h(x,y) := -9.3 \cdot x^2 + 372.0 \cdot x - 10.2 \cdot y^2 + 367.2 \cdot y - 3724.8$$

Write the code for a java class (named Volume) which will approximate the mountain's volume (in km^3). Identify, study, develop, and utilize a numerical method which permits a user to calculate the volume of 3D shape. Ensure the class permits the user to input and modify necessary parameters from the console via a tester class. Provide the output to the console. Use javadoc to provide documentation for the class in API format (Volume.html).

Provide a MS Word document detailing your solution to this problem. Include all class's code, input/output, and documentation as appendices of this paper. Describe **in detail**, the numerical method used to calculate the volume and how your code implements this method.

Send the Word document and Volume.html as email attachments to mheinen_1@msn.com NLT 5PM 10-25-13.



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