Design a typical can (modeled by the right cylinder shown below) holding 16 fluid ounces. Solve for and identify the can dimensions that minimize the use of aluminum for the sides and top/bottom of the can.





**Volume:**





**Lateral surface area:**



**Entire surface area:**





**Create a MS Word document report which:**

* Explains your design process.
* shows / explains all mathematical formulas and derivations.
* Includes an excel graph that shows how surface area changes as a function of can radius and/or height.
* Identifies on the graph the optimal solution radius and/or height.
* Explicitly states the optimal can height and radius and the number of square inches of aluminum each can will utilize with the optimal design. All dimensions to be stated in inches accurate to 2 decimal places .
* Explains why knowing the optimal can design is so important.
* ***Compares YOUR optimal design to the measurements of any actual 16 oz can.***
* Explains why PEPSI may have chosen not to manufacturer cans in dimensions that DO NOT minimize aluminum usage.

***Hand writing of any type is not permitted.***

Label your MS Word document as follows: **Can-LastName.docx**

E-mail the file as an attachment to **mheinen\_1@msn.com**

**Due Date: Midnight - Monday, 21, 2017**