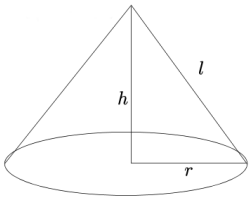
ME3001 - Spring 2024
Weekly Activity 2: Roots of Non-Linear Equations
Mechanical Design through Optimization

Overview :

As an engineer you are asked to design a structure. The geometry of this structures is simple but certain properties are critical. Also you want to spend as little as possible on materials.



You are required to design is a cone with a surface area of exactly $25m^2$ to a tolerance of 0.1 m^2 and a height of exactly $1m$. Your goal is to find the radius in meters.

Assignment :

1. Solve the mechanical design problem decribed above using a method of your choice in MATLAB. The goal is to find a value of r such that the cone has the specified surface value.

Deliverables :

- MATLAB Code: Write a MATLAB program use a method of your choice to solve the given problem. The solution strategy should be clearly defined and documented. Submit the .m file(s) used and document any example code that you used or learned from during the exercise.
- Results: Submit a brief summary of the problem statement and present the results from the solution code. The results can be typed in the program comments or typed in the assignment text box.