ENGR 13300 Fall 2020

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Section number	LC1
Assignment	Ex2_Team_Task 1

Academic Integrity Statement: I/We have not used material obtained from any other unauthorized source, either modified or unmodified. Neither have I/we provided access to my/our work to another. The solution I/we am/are submitting is my/our own original work.

Problem Description the objective is to calculate the hieght and volume and maximal volume of the storage tank

Input Section:

Table 1: Given radii of storage tank

R (ft)
0.25
0.35
0.4
0.5
0.6
0.7
0.8
1
2
3
4
5
6
7
8
9
10
11
13
14
15
16

Table 2: Given surface area of the storage tank

A (ft^2)
2000

Calculations Section:

Table 3: Calculation of the height, volume and maximal volume of the storage tank

H (ft)	V (ft^3)	maximal volume V (ft^3)
1272.99	249.95	6858.41
909.11	349.87	
795.37	399.80	
636.12	499.61	
529.92	599.32	
454.03	698.92	
397.09	798.39	
317.31	996.86	
157.15	1974.87	
103.10	2915.18	
75.58	3798.94	
58.66	4607.30	
47.05	5321.42	
38.47	5922.43	
31.79	6391.50	
26.37	6709.78	
21.83	6858.41	
17.94	6818.54	
11.49	6097.92	
8.74	5379.47	
6.22	4397.12	
3.89	3132.04	

Output Section:

Question 2 a)

Which radius R and height H combination results in the largest volume V?

Radius 10 and Height 21.83.

Question 2 b)

Are the dimensions from 2 a) acceptable considering maximizing volume and transportation to a new site? Why or why not?

The demensions are too wide for it to be carried by a truck and therefore no, it is not acceptable.