ENGR 13300 Fall 2020

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Section number	LC1
Assignment	Ex2_Team_Task 1

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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)
=(A46)/(2*PI()*A20)-A20	=PI()*A20^2 *$C20		=MAX(D20:D41)
=(A46)/(2*PI()*A21)-A21	=PI()*A21^2 *$C21		
=(A46)/(2*PI()*A22)-A22	=PI()*A22^2 *$C22		
=(A46)/(2*PI()*A23)-A23	=PI()*A23^2 *$C23		
=(A46)/(2*PI()*A24)-A24	=PI()*A24^2 *$C24		
=(A46)/(2*PI()*A25)-A25	=PI()*A25^2 *$C25		
=(A46)/(2*PI()*A26)-A26	=PI()*A26^2 *$C26		
=(A46)/(2*PI()*A27)-A27	=PI()*A27^2 *$C27		
=(A46)/(2*PI()*A28)-A28	=PI()*A28^2 *$C28		
=(A46)/(2*PI()*A29)-A29	=PI()*A29^2 *$C29		
=(A46)/(2*PI()*A30)-A30	=PI()*A30^2 *$C30		
=(A46)/(2*PI()*A31)-A31	=PI()*A31^2 *$C31		
=(A46)/(2*PI()*A32)-A32	=PI()*A32^2 *$C32		
=(A46)/(2*PI()*A33)-A33	=PI()*A33^2 *$C33		
=(A46)/(2*PI()*A34)-A34	=PI()*A34^2 *$C34		
=(A46)/(2*PI()*A35)-A35	=PI()*A35^2 *$C35		
=(A46)/(2*PI()*A36)-A36	=PI()*A36^2 *$C36		
=(A46)/(2*PI()*A37)-A37	=PI()*A37^2 *$C37		
=(A46)/(2*PI()*A38)-A38	=PI()*A38^2 *$C38		
=(A46)/(2*PI()*A39)-A39	=PI()*A39^2 *$C39		
=(A46)/(2*PI()*A40)-A40	=PI()*A40^2 *$C40		
=(A46)/(2*PI()*A41)-A41	=PI()*A41^2 *$C41		

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.