

ENGR 104
Homework 4

1. An engineer measures the diameters and lengths of a number of steel rods. Calculate the cross-sectional area and total volume of each of the rods, and report the answers **using the correct number of significant digits (per the rules outlined in class!)**.

<i>Rod</i>	<i>Diameter (m)</i>	<i>Length (m)</i>
A	0.125	12.80
B	0.15	1.1
C	0.1250	1.1
D	.01250	1.105
E	0.38	8.11
F	0.3750	8.110
G	0.3750	8.1
H	2.2	5.29
I	2.20	5.290

where: $A = \pi \left(\frac{D}{2} \right)^2$ and $V = A \times L$

Do this in Excel. Your results should be in a table like this:

Rod	Diameter (m)	Length (m)	cross-sectional Area (m ²)	Volume (m ³)
A	0.125	12.80		
B	0.15	1.1		
C	0.1250	1.1		
D	.01250	1.105		
E	0.38	8.11		
F	0.3750	8.110		
G	0.3750	8.1		
H	2.2	5.29		
I	2.20	5.290		

Note: When you use the 'increase decimal' or 'decrease decimal' buttons to control the number of digits displayed (right click – format cells), this affects the display only, not the way the number is stored in Excel. Therefore if you have limited the digits displayed in the Area cell, it is still ok to use the Area cell in the computation of Volume because internally you have not done any rounding. Therefore you are not violating the rule about not rounding intermediate results.

Send the spread sheet to homeworkflc02@gmail.com