ENGR 1112 Intro to Engineering
Fall 2007
HW#1
Due Date: Tuesday Sept. 4, 2007

Problem One

Determine the number of significant figures for the following scalars:

0.00405	_____		
350.	_____	350	_____
3.50×10^{-3}	_____	3.02	_____

Problem Two

Each of the following numbers is shown with some insignificant digits. Round each to the number of significant digits indicated

Number	*Number Significant Digits*	*Rounded Value*
1.152	2	
1.5	1	
1.345	3	
0.0306	2	

Problem Three

Perform the following calculations with your calculator and round the result to the proper number of significant figures.

Calculation	*Rounded Result*
3.8 x 5.32	
20.2 ÷ 3.8	
$15.34 \times 10^{3} + 25.42$	
$13.3 - 5 \times 10^{-1}$	
3.33 x 2.5	
(3.001234 – 3.001236) / 3.0001234	
25% of 95.24	
2/pi	

Problem Four

For the following values indicate each value in scientific and engineering notation.

Value	*Scientific Notation*	*Engineering Notation*
1230		
123,000		
12,300,000		
0.1230		
0.000123		

Problem Five

For the following values indicate how each is displayed *on your calculator* in scientific and engineering notation.

Value	*Scientific Notation*	*Engineering Notation*
1230		
123,000		
12,300,000		
0.1230		
0.000123		

Problem Six

Find the web-site for your calculator (note you might start with some of the web-addresses I listed in your handout). Fill in the information below concerning your calculator.

Calculator Manufacturer _____

Calculator Model _____

Calculator Web-site _____

Calculator Manual Online _____

Problem Seven
Perform each unit conversion as indicated. Show all work (a single conversion from a web-site is **NOT** sufficient – show the intermediate steps for credit)

2.31 m/s → ft/s

100 psi → kPa

1.3×10^5 Btu/s → MW

1.5×10^3 kg/m^3 → lbm/ft^3

9.81m/s^2 → ft/s^2