**Engr 130 Assignment HW5e – Measurements & Sig Figs**

**HFCC Winter, 2013 MW 0910-1030 Monday 18 March, 2013**

**Due Monday 25 March, 2013**

* Unless otherwise noted, all numerical values present in the problems below are “measurements”. Pay attention to sig figs in your answers.
* Unless otherwise noted, you may present your answers in either numerical values or scientific notations.
* Where appropriate, you should include necessary graphs as parts to your works.

B

S

H







The table below shows a few sets of some measurements from a generic right triangle shown above. The following table contains 4 sub-problems. Fill in the missing values. For each sub-problem, show your work in achieving the values you filled in. Note : “A” in the table is for area of the triangle.

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | A, cm2 | S, cm | B, cm | H, cm | , ° | , ° | , radian | , radian |
| a |  | 10.0 | 10.0 |  |  |  |  |  |
| b |  |  | 17.3 | 20.0 |  |  |  |  |
| c |  |  |  | 22.4 | 63.4° |  |  |  |
| d |  |  |  | 20.0 |  |  | 0.350 |  |

1. Given an equation, y = m log( x ) + b The following table shows a few sets of some measurements. Calculate and fill in the missing values. For each sub-problem, show your work in achieving the values you filled in.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | y | m | x | b | log( x ) | m log( x ) |
| a |  | 10.0 | 12.34 | 10 |  |  |
| b |  | 10.0 |  | 20.0 | 2.09 |  |
| c |  |  | 123.4 | 22.4 |  | 20.9 |
| d | 225.0 | 10.00 |  |  | 3.0913 |  |

3.

L

R

B

T





 : 45.0°

L : 14.15 cm

R : 11.55 cm

B : 52.50 cm

Above diagram shows a precision machined piece of trapezoidal shaped metal, with some measurements. Note that the top and bottom edges, T and B, are parallel to each other, Calculate the following. Show your work in achieving the answers.

1. Angle, . (Pronounced like “phee”).
2. Length of top edge, T.
3. Area of the trapezoidal shape, A.