Build Notes on Trigonometry Ratios in Right Triangles

- ❑ Look at your homework first problem #4. Sine (of an acute angle in a right triangle) is the ratio of _____ side length over _____side length.
- ❑ Cosine (of an acute angle in a right triangle) is the ratio of _____ over _____.
- ❑ Tangent is the ratio of _____ side length over _____ side length.
- ❑ On problem 4, what is true about the sine of 53.2° and the cosine of 36.8°?
- ❑ What is true about the cosine of 53.2° and the sine of 36.8°?
- ❑ The tangent of 53.2° is the r_____ of the tangent of 36.8°.
- ❑ If you have not already, go through your homework and change all of the fractions to decimals by dividing in your calculator. Round to 4 decimal places.
- ❑ Now look at the "trig tables" handed out to you. Take a few moments to orient yourself to the tables. Find 0° on upper left. See 9-18 degrees on the right. Flip. See 18 to 27 degrees and 27 to 36 degrees on the back. Then look at the other page to see 36 to 45.
  Where are 45-90 degrees?_____
- ❑ For problem 1 (upper right) on your HW, sine of β is 4/6 or .6667. Scan the charts looking for ~~and~~ a sine ratio that is very close to .6667. What is the nearest whole degree? _____
- ❑ What is the smallest value of sine in the left column? _____ Can you have a measure of zero degrees in a right triangle? _____. As the angles get bigger, the value of sine is getting _____. Assume the largest acute angle could be 89 degrees in a right triangle. What is the sine of 89 degrees? Hint: look in the last column, and for ratio names for the right column, look at the bottom for "sin". Sine of 89° = _____.
- ❑ What is the sine of 30°? _____ Sketch a 30,60,90 right triangle and label the 30° angle as A, the 90 as B, the 60 as C. Label sides opp, adj, and hyp for angle A.
  If hypotenuse = 2 cm, then opposite should be _____ cm.
- ❑ On the 30 degree line, notice that the far right is 60 degrees. Look at the bottom for cosine. Is the cosine of 60 degrees the same as the sine of 30 degrees? _____
- ❑ Find 45 degrees. The sine is _____. The cosine is _____.
- ❑ Sketch a 45, 45, 90 right triangle. Why are sine and cosine the same?
- ❑ The tangent for a 45° angle is _____. Label your 45's as A and B. and 90 as C. Are AC and BC the same? Label them each 5 cm. Explain why the tangent of 45 degrees is always 1.