Lab Assignment #23

This lab is due at 12:30 PM on Wednesday, 12/4, and is worth 10 points. This part may be done individually, or in a group of 2, 3, or 4 people.

No calculators. Write answers to 2 significant digits.

1) Find sine, cosine, and tangent of 10°. Draw an accurate picture with protractor and ruler.

2) Find sine, cosine, and tangent of 58°. Draw an accurate picture with protractor and ruler.

3) Find sine, cosine, and tangent of 17°. Draw an accurate picture with protractor and ruler.

4) Find sine of 30°. Draw a sketch, and use information from last class.

5) Find cosine of 45°. Draw a sketch, and use information from last class. (Write answer as a fraction involving a square root.)

6) Find tangent of 87°. Draw an accurate picture with protractor and ruler.

7) Use trial and error to find the angle whose sine equals 0.83. In other words, the inverse sine of 0.83 equals _____ °. Draw an accurate picture with protractor and ruler.

8) Explain why the sine of any acute angle must be between 0 and 1. Is this true for cosine? Is this true for tangent?

9) Explain why the sine of an acute angle is always smaller than tangent of same angle.

10) Explain why the sine of an acute angle equals the cosine of the complementary angle. For example, the sine of 34° must equal the cosine of 56°.