Homework 1 - Due Wed. Jan 30th

Scores: 

| 1.1 | 1.3 | 1.4 | 1.6 | 1.7 | 6 | 7 | 8 |

This homework is due on or before the beginning of class Wed. Jan 30th. Printed submissions are preferred but electronic submissions are preferable to late homework.

**Directions:** Seeking help is allowed. You may discuss these problems with others or consult an outside reference. However, make sure you write your submitted answers up by yourself without books or notes. This is important as our midterm and final will be closed book and note, in class tests. Make sure you are learning precise definitions as you encounter them in the homework. You will be asked definitions on tests.

Homework 1: Questions (1)-(5) are textbook problems: 1.1, 1.3, 1.4, 1.6, 1.7

(6) Prove that if two altitudes in a triangle are congruent, then the triangle is Isosceles.

(7) Prove that in an Isosceles triangle, the angle bisector at the vertex which is not one of the base angles is also the median and the altitude from this angle.

(8) We took SAS as an axiom and used it to prove ASA. Now take ASA as an axiom and use it to prove SAS.

Difficult HW Problem One of the angles of the triangle measures 120°. Show that in this triangle the feet of the angle bisectors form a right triangle.

This problem will be on the next homework set.