Constructing Congruent Triangles

For this exercise, you will need blank paper (preferably graph paper), a compass, and a protractor. Wait for instructions on how each number will be assigned to you.

Steps for each triangle:

a) Use your instruments to construct a triangle with the dimensions given.
b) Cut this triangle out, write your name and the problem number on it and compare it with whichever students also constructed the same triangle.
c) If your triangles are congruent, state this after each number and justify your answer by

   i) Attaching an image of yours and at least one other students pasted on this document. You can do this with all hard copies if you prefer. If you do it digitally, do your best to crop the image in order to avoid making the file size too large.
   ii) Stating which postulate from sections 4-5 and 4-6 justifies your answer. If the given dimensions aren't enough to prove congruence, explain why.

1. A triangle that is 2 by 4 by 5 inches.

2. A triangle that has two sides of length 3 and 4 inches and the angle between them is 65°

3. A triangle that has two sides of length 3 and 5 inches and the angle between them is 114°

4. A triangle that has a side of length 5 inches and is between two angles measuring 53° and 74°

5. A triangle that has a side of length 3 inches and is between two angles measuring 35° and 124°

6. A triangle that has two angles measuring 63° and 77° with the side opposite the 77° angle measuring 4 inches

7. A triangle that has two angles measuring 22° and 119° with the side opposite the 119° angle measuring 6 inches

8. A triangle that has two sides of length 3 and 5 inches with the angle opposite the 3 inch side measuring 31°