Area, Law of Sines, and Law of Cosines Project

This is in place of a test for 10.1 and 10.2 and will be worth 25 test points. It is open note and open neighbor, but not open teacher. Everybody must turn in their own assignment with their own work. Due to the nature of the project, no two assignments should be the exact same.

1. What is the Law of Sines?

2. How do you know when to use the Law of Sines?

3. What is the Law of Cosines?

4. How do you know when to use the Law of Cosines?

5. What is the area formula we learned this unit?

Directions:
Use a ruler to draw a polygon with 7 sides on the blank piece of computer paper that you were given. Divide the polygon into triangles (see examples on board). Number the triangles 1-5. DO NOT LABEL THE MEASUREMENTS OF THE SIDES YET. **EXTRA CREDIT: CALCULATE ALL OF THE MISSING SIDES/ANGLES.**

Triangle #1: Measure 2 angles and 1 side on the triangle. Use a colored pencil to mark which sides and angles you measured. Calculate ONE of the missing sides of the triangle. *Show your work here and then write the measurements of the side you discovered on your polygon*.

Triangle #2: Measure 2 of the sides and 1 **non-included** angle. Use a new colored pencil to mark which sides and angles you measured. Calculate ONE of the missing angles. *Show your work here and then write the measurements of the angle you discovered on your polygon.*

Triangle #3: Measure 3 sides of the triangle. Use a new colored pencil to mark which sides you measured. Calculate ONE of the missing angles. **Note: If you are calculating all of them, be sure to start with the biggest angle**. *Show your work here and then write the measurements of the angle you discovered on your polygon*.

Triangle #4: Measure 2 of the sides and the **included** angle. Use a new colored pencil to mark which sides and angle you measured. Calculate ONE missing side. **Note: If you are wanting to calculate all of the angles, make sure that the largest angle is the one you measured.** *Show your work here and then write the measurements of the angles you discovered on your polygon.*

Triangle #5: Measure the necessary sides and angles to calculate the area using the area formula. Use a new colored pencil to mark which side(s) and angle(s) you measured and then calculate the area. *Show your work here and then label the area on the polygon.*

When you are done, staple this paper and your polygon paper and turn them into the basket.