

MA 501 Homework #5

Due Tuesday, February 19, in class

1. Read through the handout “Trigonometry” that I provided you in class last time. This is also posted to the course website in the “Some Notes and Materials” section. It may not be the case that everything will be immediately understandable the first time through.

Give me a list of the items that you feel most unfamiliar with, and the items that you feel most familiar with.

2. Create student tasks, with solutions, that focus on the following “triangle solution” problem types (but include some triangles that are not right). In each case (1) describe how the problem could be solved with such tools as the Law of Sines and the Law of Cosines, etc., and (2) how it could be solved with dynamic geometry software like GeoGebra. Also, for each problem type (3) try to include some cases with no answers, and (4) cases with more than one answer.
 - (a) Given the lengths of the three sides of a triangle, determine the measures of its angles.
 - (b) Given the lengths of two sides and the measure of the included angle, determine the length of the third side and the measures of the other two angles.
 - (c) Given the lengths of two sides and the measure of a non-included angle, determine the length of the third side and the measures of the other two angles.
 - (d) Given the measures of two angles and the length of the common side, determine the measures of the third angle and the lengths of the other two sides.
 - (e) Given the coordinates of each of the vertices, find the lengths of the three sides and the measures of the three angles.