

Math 1316: 1-27 Worksheet

January 27, 2022

1. We've been looking at examples with non-right triangles, but if the law of sines works for *all* triangles it should work for right triangles. Think of a right triangle with unknown sides a , b , and c and unknown angles α and β . (The third angle isn't unknown—you know it's 90° .) Think about what the law of sines says about this right triangle, using what you know about the value of $\sin 90^\circ$ to simplify the equations. What do you get?
2. A triangle has an angle of 100° flanked by sides of length 5 and 8. Find all angles and side lengths of the triangle.
3. A triangle has a side of length 10 flanked by angles of measure 40° and 40° . Find all angles and side lengths of the triangle.
4. A triangle has sides of length 10, 20, and 25. Can you use the law of sines to find the angles of the triangle? Why or why not?