Chapter 9 Test Prep

1. Use the Pythagorean Theorem to solve for unknown sides of right triangles
2. Use the Pythagorean Inequalities Theorem to determine whether a triangle is acute, right, or obtuse.
3. Find the geometric mean of two numbers.
4. Use the Geometric Mean (Altitude) Theorem and the Geometric Mean (Leg) Theorem to solve for missing side lengths.
5. Use Special Right Triangle rules (30-60-90 and 45-45-90) to solve for unknown sides. Remember, exact form only for these!
    a. Also know how to find the sine, cosine, and tangent ratios for the acute angles in these triangles (i.e. tan (60°) = ? or sin (45°) = ?)
6. Solve right triangles
    a. Use trigonometric ratios ("SOH-CAH-TOA") to find side lengths
    b. Use inverse trigonometric ratios to find angle measures
7. Solve non-right triangles
    a. Know for which cases to use the Law of Sines or Law of Cosines
    b. Use the Law of Sines and the Law of Cosines to solve the non-right triangle
8. Find the area of a triangle (area = $\frac{1}{2}ab\sin C$)
9. Given a diagram, classify angles as angles of depression or angles of elevation
10. Using angles of elevation/depression and your trigonometric ratios, solve a real-life problem. (i.e. "How tall is this flag pole?" type…)

I will give you the Law of Cosines formula on the exam, but you will need to know *how* to use it!