

## Triangle Information and Trigonometry

There are a few things to keep in mind about triangles that we are going to use frequently in trigonometry.

1. The longest side is across from (opposite) the largest angle.
2. The shortest side is across from (opposite) the smallest angle.
3. Any third side of a triangle is smaller than the other two sides put together.

When finding an angle or side measure of a triangle, here are a few hints:

1. Go back to the original information that you were given to find each part instead of using parts that you've already found. This keeps the rounding errors to a minimum.
2. Round trig values to four decimal places in order to preserve accuracy.
3. Use the given information to determine how many places you need to round your answer. For example, if the side lengths in the problem round to tenths, then round your side length answers to tenths, and if angles in the problem round to the nearest degree, then round your angle answers to degrees.

Regarding applications of right triangles:

1. Angles of elevation and depression (declination) are both measured starting from the **horizontal**.
  - ★ Angle of elevation – Start from the bottom and measure the angle upwards.
  - ★ Angle of depression – Start from the top and measure the angle downwards.

The angle of elevation from the ground looking up is equal to the angle of depression from the sky looking down!

