**Objective:**

**Do Now:**

1. Draw a square with side length 12
2. Draw a diagonal across the square.
3. What special right triangles did you just form inside your square?
4. What is the length of the diagonal?

**Applications of Triangles**

Steps:

1. Draw a diagram.
2. Label your given side lengths.
3. Determine any special right triangles you have.
4. Find missing side lengths.

**Example 1.** The diagonal of a square is 16 feet long. What is the length of the side of the square?

**Example 2.** An equilateral triangle has a side length of 8. What is the length of the altitude of the triangle?

**Example 3.** A television has a diagonal of 46 inches. If the base of the television is 40 inches long, how tall is the television?