The famous Pythagoren Theorm concerns right triangles. If the legs of the triangle have lengths x and y, and the length of the hypotenuse is z, then $z = \sqrt{x^2 + y^2}$.

There are many proofs of this result.

We can get the corresponding angles via inverse trig functions. For instance, the angle formed by the sides of length x and z above, which we'll call θ, is

$$\theta = cos^{-1}(\frac{x}{z}) \tag{1}$$