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Dan King* (kingd6@nku.edu), 673 Neal Howell Road, Bowling Green, KY 42104, and **Tom Richmond** (tom.richmond@wku.edu). *Patterns in Pythagorean Triples*. Preliminary report.

Euclid's formula is a fundamental formula for generating Pythagorean triples (PTs) given an arbitrary pair of positive integers m and n . The PT is primitive if and only if m and n are relatively prime. Consider the PTs as points in 3-space that lie on the cone $x^2 + y^2 = z^2$. These points can be thought of as vertices of polygons, particularly right triangles, on the cone. Pursuit of right triangles in 3-space with both PT vertices and integer edges has led to interesting results such as restrictions on certain integer distances. This presentation will examine the properties of integer distances between PT points in 3-space. (Received September 15, 2014)