1100-51-9 **Derege Haileselassie Mussa*** (derege.mussa@tamuc.edu), 2600 South Neal Street, Commerce Texas 75428, Commerce, TX 75428. *Refined Tetrahedra.* Preliminary report.

A Tetrahedron (plural tetrahedra) is a three dimensional solid having four vertices,four triangular faces and six edges which don't lie in a single plane.Many problems in geometry benefit from considering familiar situation using a partition perspective.The partitions of n are the ways of writing n as the sum of positive integers. We classify the Tetrahedron according to the edges since the tetrahedron has six edges then there are 11 partitions.These 11 classes all exists as 3D type but not as a degenerate 2D type because a 3D type may not exist in the plane. The refined approach taking some geometric information (but not relative size of edges) into account leads to potentially 25 classes as was determined by D.Mussa.Mussa's partition not only enumerates the refined number of partition classes but determines for each of these classes if there is an integer collection of lengths for a tetrahedron in this class exists. When raising questions about Tetrahedra,1.one can ask which partition types the phenomenon being looked at can hold for. 2.What happens when we try to classify faces by partition type with regard to congruence?The paper also discuss a partition pair together with a congruence type partition to pin down exactly which of the 25 types of Tetrahedra we are looking at. (Received November 09, 2013)