

1106-VM-1578 **Derege H Mussa*** (derege.mussa@utdallas.edu), 800 West Campbell Road, Richardson, TX 75080, Dallas, TX 75080. *Degenerate Tetrahedra*. Preliminary report.

Three dimensional will give an enormous amount of attentions to graphical representation and mental visualization. A tetrahedron (plural tetrahedra) is the simplest three dimensional solid having four vertices, four triangular faces and six edges which don't lie in a single plane. A partition of a positive integer n is a way of writing n as a sum of positive integers and is denoted by the list of positive integers in the sum. Partitions of 6, namely 6, 5, 1, 4, 2, 4, 1, 1, 3, 3, 3, 2, 1, 3, 1, 1, 1, 2, 2, 2, 2, 1, 1, 2, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1. The number of edges of tetrahedron offers a way to classify tetrahedra, and to address questions of research interest to mathematicians, while offering k-12 students a laboratory to make models, and get insight into representation of geometrical objects, visualizing these objects, and telling when the objects are the same or different. A sextuple $S = (a, b, c, d, e, f)$ is a degenerate tetrahedron if and only if S is facial (the lengths of the edges of each four face must obey the (strict) triangle inequality) and that the McCrean determinant is zero. The paper discuss the degenerate tetrahedral, When does a degenerate tetrahedron with specific edge lengths exist? How can we classify degenerate tetrahedra in a natural way? (Received September 14, 2014)