



Fig. 621.01 Constant Properties of the Tetrahedron:

- A. The area of a triangle is one-half the base times the altitude. Any arbitrary triangle will have the same area as any other triangle so long as they have a common base and altitude. Here is shown a system with two constants, A and B, and two variables\_the edges of the triangle excluding A.
- B. The volume of a tetrahedron is one-third the base area times the altitude. Any arbitrary tetrahedron will have a volume equal to any other tetrahedron so long as they have common base areas and common altitudes. Here is shown a system in which there are three constants, A, B, C, and five variables\_all the tetrahedron edges excluding A.
- C. As the tetrahedron is pulled out from the cube, the circumference around the tetrahedron remains equal when taken at the points where cube and tetrahedron edges cross; i.e. any rectangular plane taken through the regular tetrahedron will have a circumference equal to any other rectangular plane taken through the same tetrahedron, and this circumference will be twice the length of the tetrahedron edge.