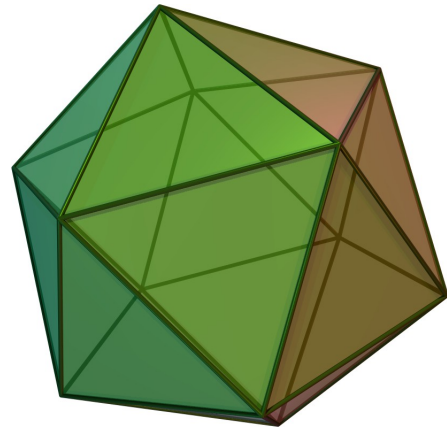
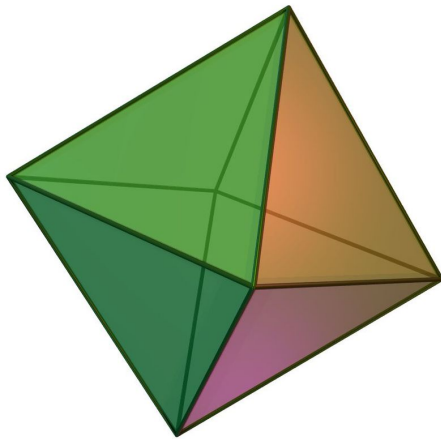
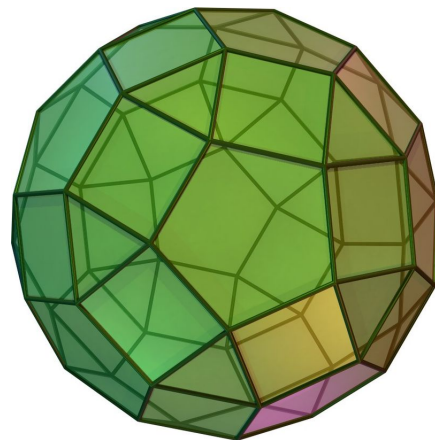
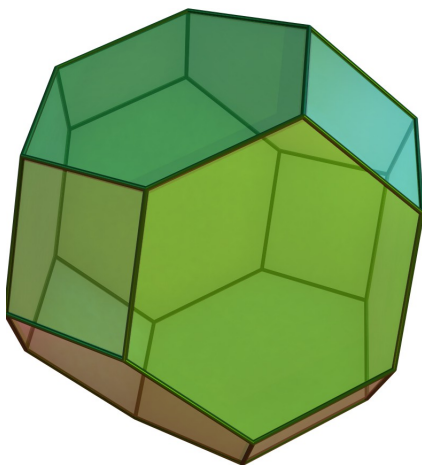


Symmetries

1. Calculate the order $|\text{Sym } O|$ of the symmetry group of octahedron in three different ways by using the action of the group $\text{Sym } O$ on the set of vertices, edges, and faces of the octahedron. Do the same for icosahedron.



2. Calculate the orders of the symmetry groups of the following polytopes and then determine how many vertices, faces, and edges they have:



3. Do the same procedure as in the previous problem for the football:

