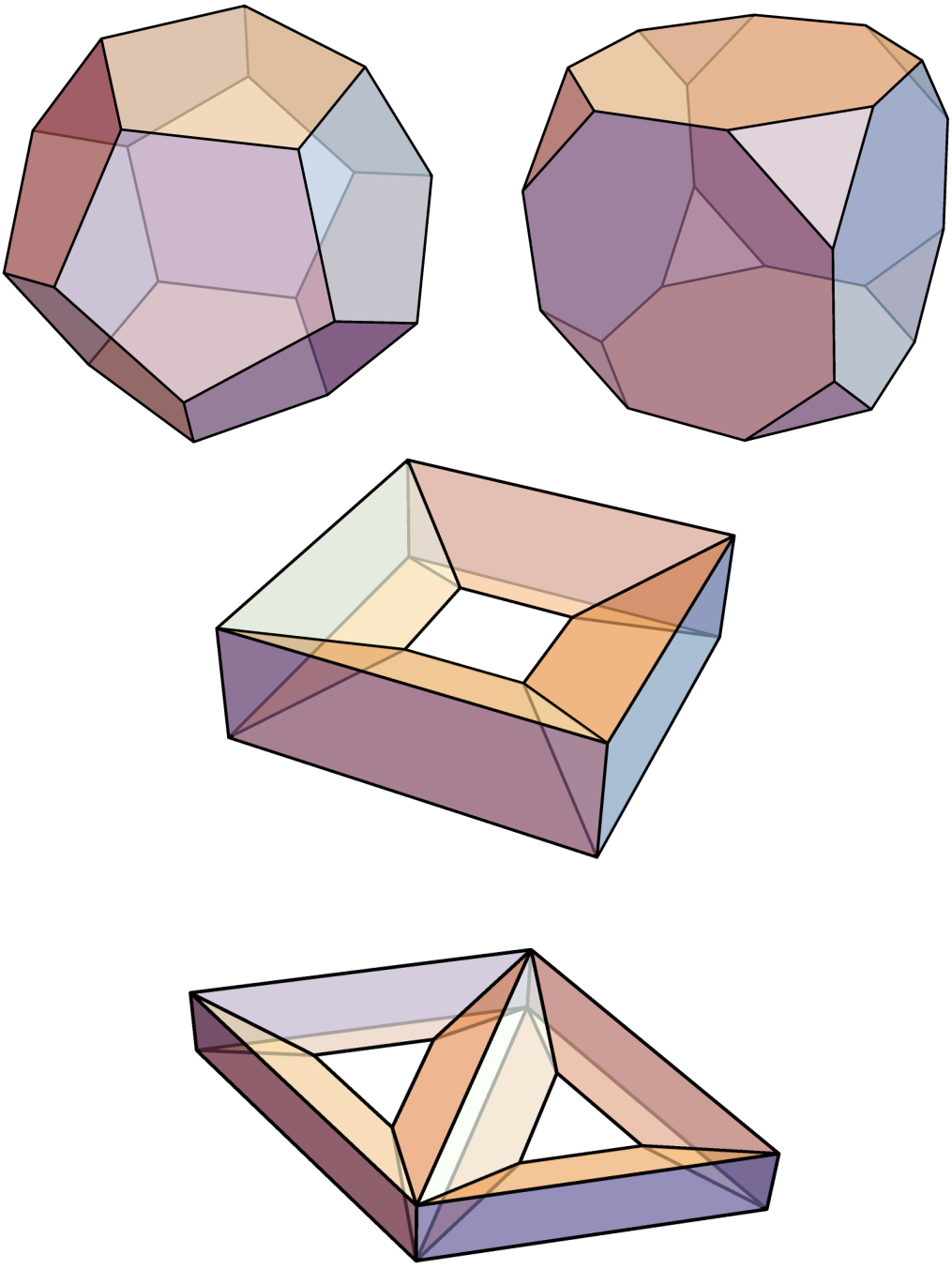
Polyhedral Investigation

MATH 261 Computational Geometry

For some of your favorite polyhedra, compute

$$V - E + F$$

where V is the number of vertices, E is the number of edges, and F is the number of faces.



1. Let P be a polyhedron of genus zero. If every face of P is either a pentagon or a hexagon, and if the degree of each vertex is 3, then how many faces are pentagons?

2. Let P be a polyhedron of genus zero. If every face of P is a traingle and the degree of each vertex is either 5 or 6, then how many vertices have degree 5?