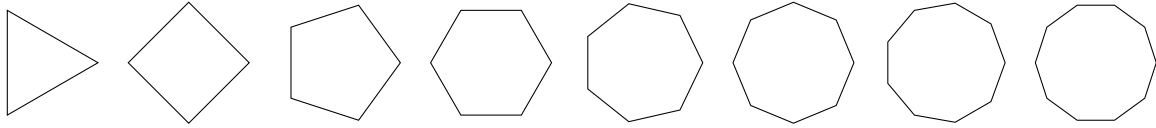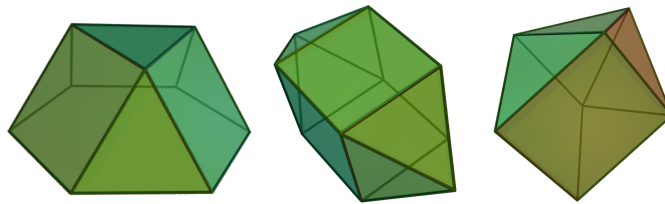# UW Math Circle
Worksheet

A *regular polygon* is a two-dimensional shape with straight sides in which all sides and angles are equal. Here are some regular polygons:

A *solid* (regular-faced strictly-convex polyhedron) is a three-dimensional shape with sides that are regular polygons. Here are some solids:

The flat sides are called *faces*, the lines where faces meet are called *edges*, and the points where edges meet are called *vertices*.

1. Find as many solids as you can where each vertex is surrounded by only three faces.

2. Find as many solids as you can such that each face is a triangle.

The *degree* of a vertex is the number of edges around that vertex. The *degree* of a face is the number of edges around that face.

1. For each of the solids that you have found, compute the number of vertices, the number of edges, the number of faces, the sum of the degrees of the vertices, and the sum of the degrees of the faces.

2. Can you see any patterns?

Solid	Vertices	Edges	Faces	Vertex Degree Sum	Face Degree Sum
	9	15	8	30	30