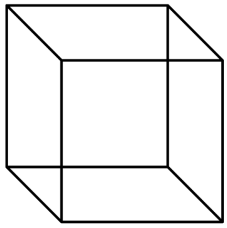
Polyhedron: a three dimensional shape made up of flat polygonal **faces** (F), straight **edges** (E), and sharp corners (**vertices** – V).

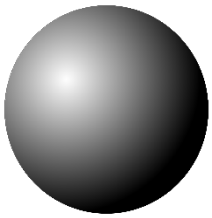
Platonic solid: a regular, convex polyhedron. It is constructed using the same congruent regular polygonal faces with the same number of faces meeting at each vertex.

1) Is a cube a polyhedron? If so, how many faces does it have (what is F), how many edges does it have (what is E) and how many corners does it have (what is V)?



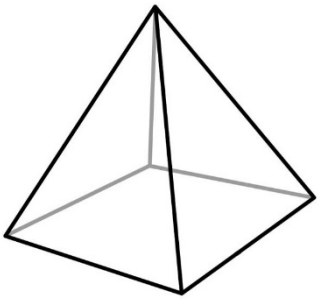
2) Is the cube a platonic solid?

3) Is a sphere a polyhedron? If so, how many faces does it have (what is F), how many edges does it have (what is E) and how many corners does it have (what is V)?



4) Is the sphere a platonic solid?

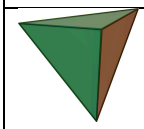
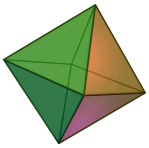
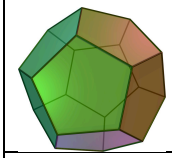
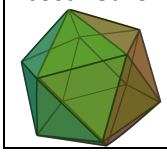
5) Is a pyramid a polyhedron? If so, how many faces does it have (what is F), how many edges does it have (what is E) and how many corners does it have (what is V)?



6) Is the pyramid a platonic solid?

7) For all the polyhedra above and on the next pages, what is F – E + V ?

8) Fill in the following table for the Platonic solids:

	Faces	Vertices	Edges
 Tetrahedron			
Cube			
Octahedron 			
Dodecahedron 			
Icosahedron 			

9) Anna is building a new jungle gym. Starting from a frame in the shape of a cube, she attaches ropes that go from the center of each face to the centers of the four adjacent faces. How many ropes does she need in all? What shape do the ropes make?

10) Mika is building her jungle gym the same way, but starting with a frame in the shape of a dodecahedron. How many ropes does she need?

Archimedean solid: a polyhedron whose faces are regular polygons where the same polygons meet at each vertex. However, there can be more than one kind of polygon. One example is the cuboctahedron, but there are many more.