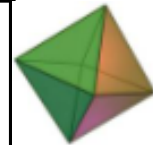
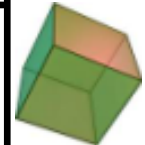


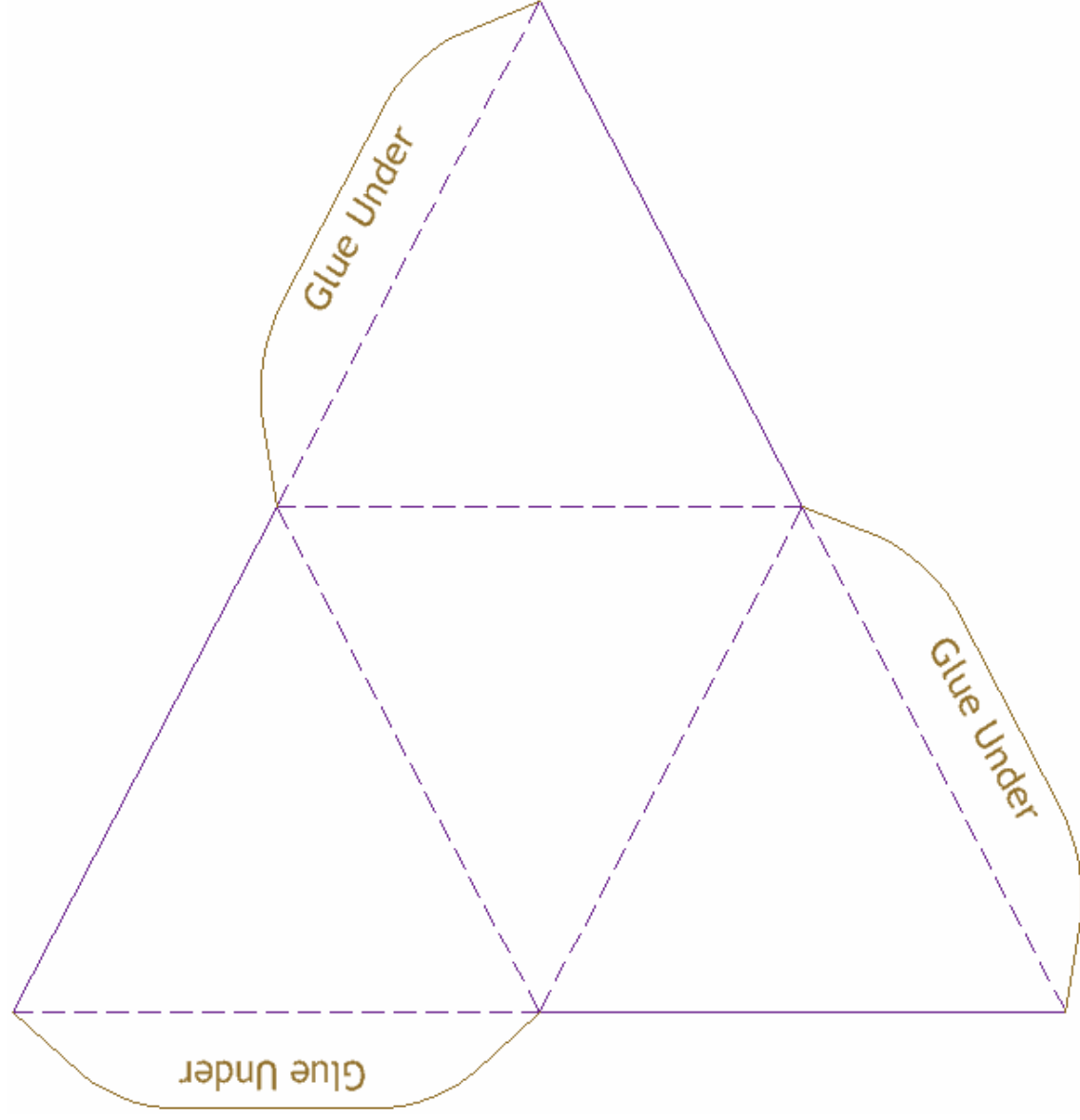
# PLATONIC SOLIDS

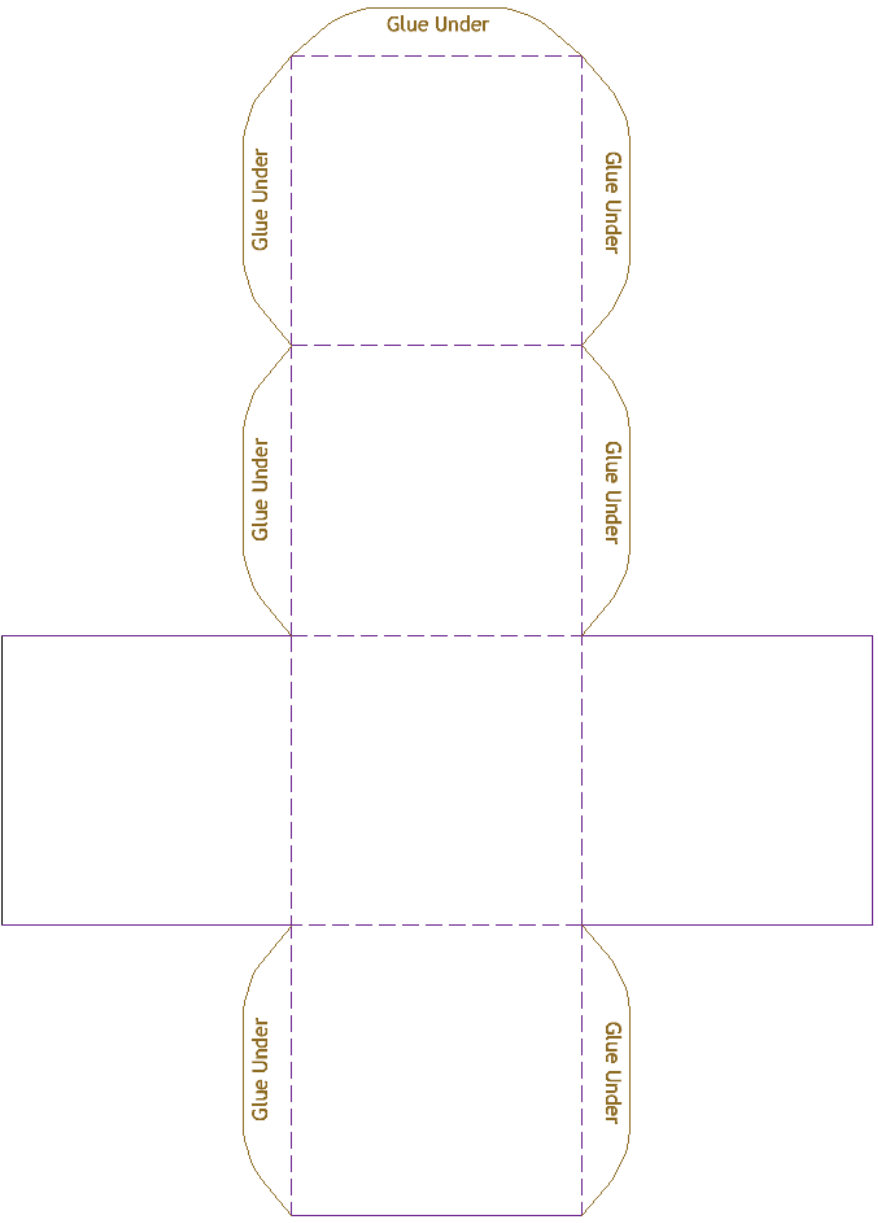
- ONLY EXISTING SOLIDS IN WHICH ALL FACES ARE IDENTICAL AND EQUILATERAL (SIDES ARE EQUAL)
- EACH SOLID CAN BE CIRCUMSCRIBED BY A SPHERE WITH ALL OF ITS VERTICES LYING ON THE SPHERE EQUIDISTANT FROM EACH OTHER.
- FACES OF ALL OF THE SOLIDS CAN BE CONSTRUCTED OUT OF TWO TYPES OF RIGHT TRIANGLES:
  - isosceles right triangle (45 - 45 - 90)
  - scalene right triangle (30 - 60 - 90)

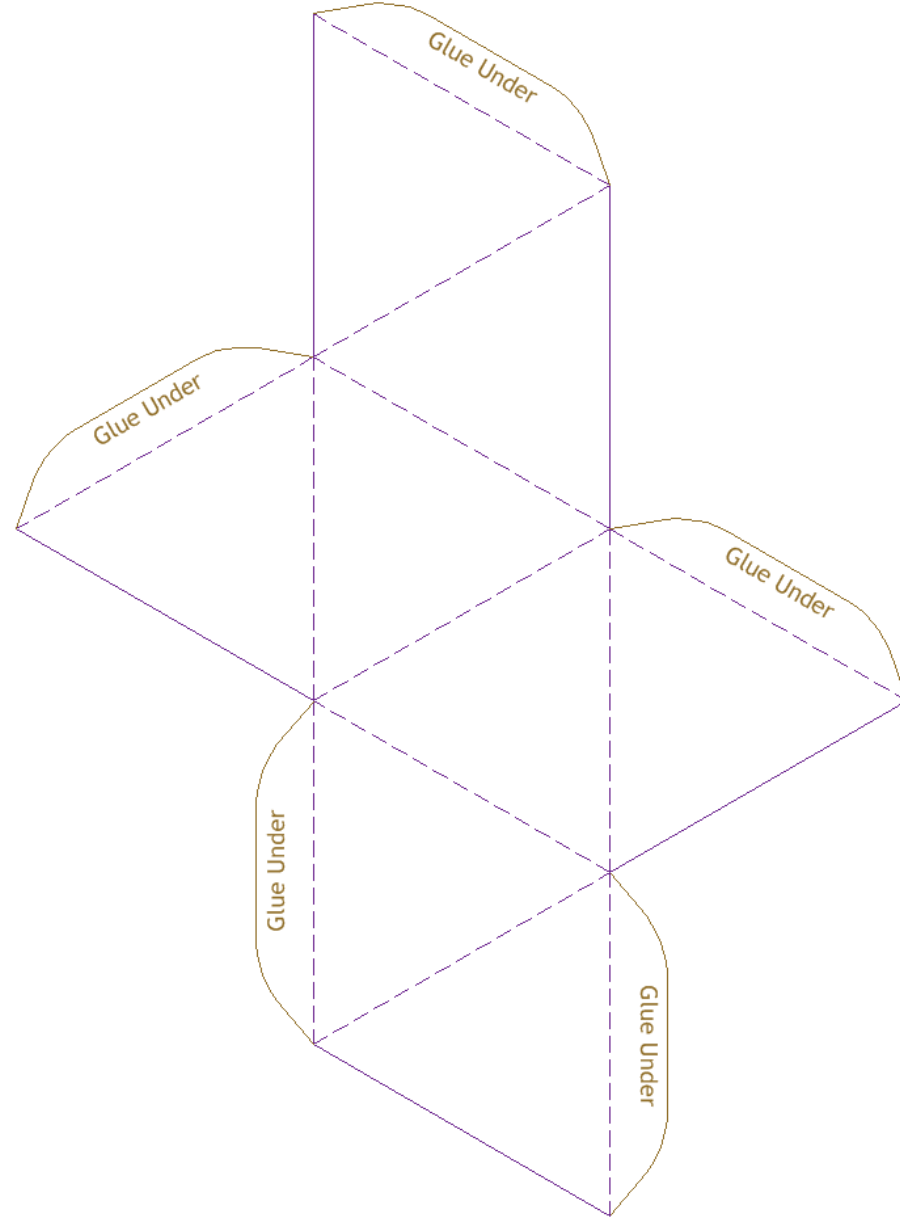
NAME OF PLATONIC SOLID	PLATO'S ATTRIBUTE	POLYGON	VERTICES	EDGES	FACES
Tetrahedron					
Cube					
Octahedron					
Dodecahedron					
Icosahedron					

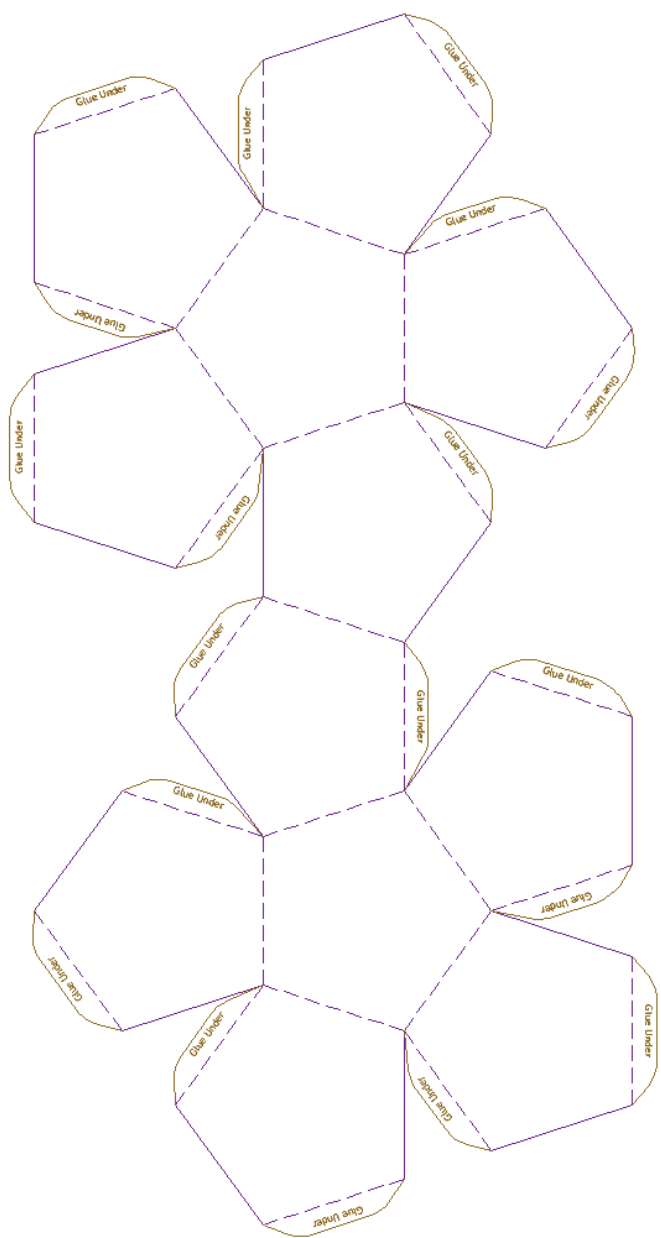
NAME OF PLATONIC SOLID	PLATO'S ATTRIBUTE	POLYGON	VERTICES	EDGES	FACES
Tetrahedron	Fire	Triangles	4	6	4
Cube	Earth	Squares	8	12	6
Octahedron	Wind	Triangles	6	12	8
Dodecahedron	Heavens	Pentagons	20	30	12
Icosahedron	Water	Triangles	12	30	20

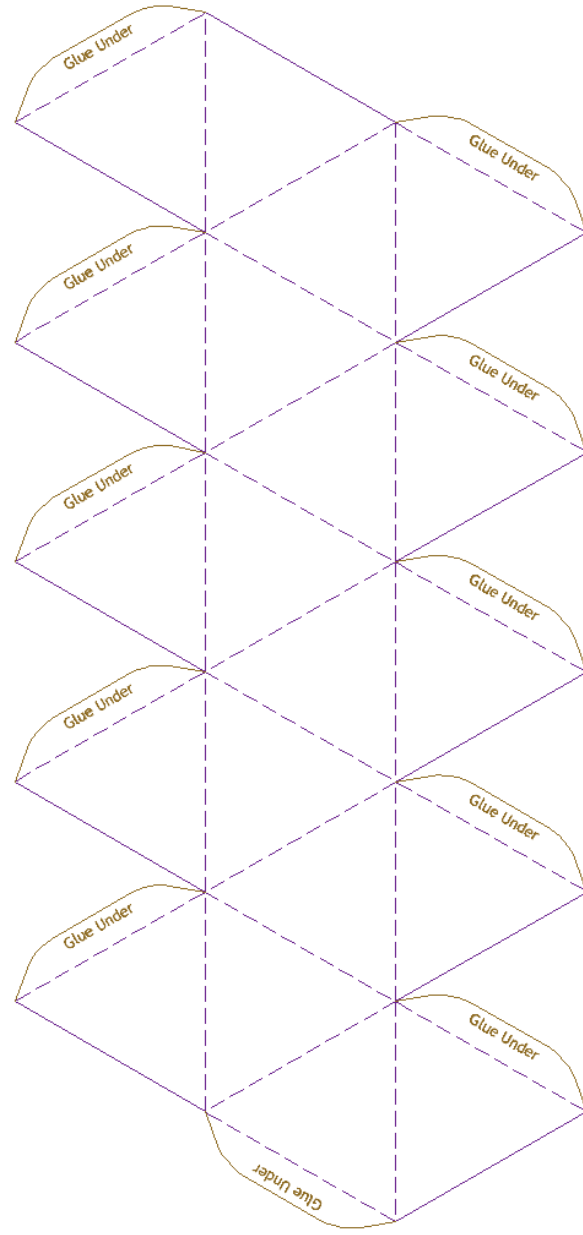












Euler formula: for any convex polyhedron, the number of vertices and faces together is exactly two more than the number of edges.

$$V - E + F = 2$$