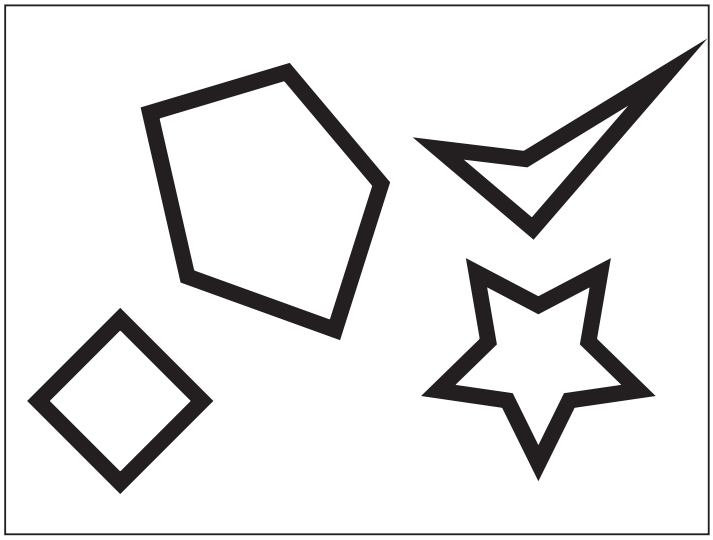
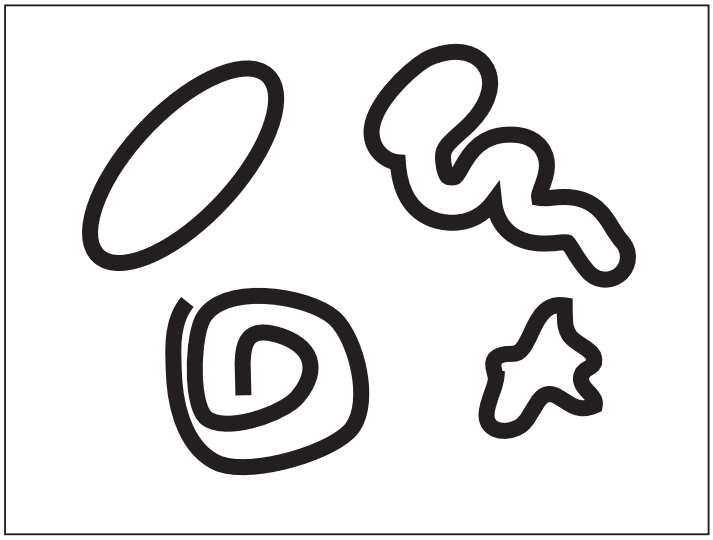
Shapes!

Polygons are 2 dimensional (flat) shapes with at least 3 straight lines

Polygons

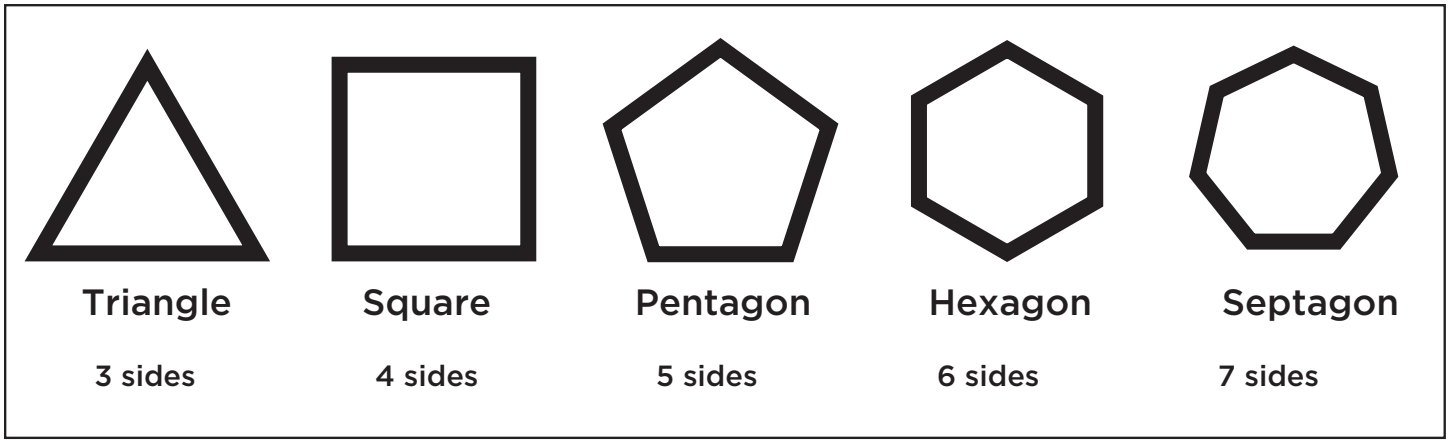


Not polygons



Regular Polygons are 2 dimensional shapes where each of the sides are the same length and corners the same angle.

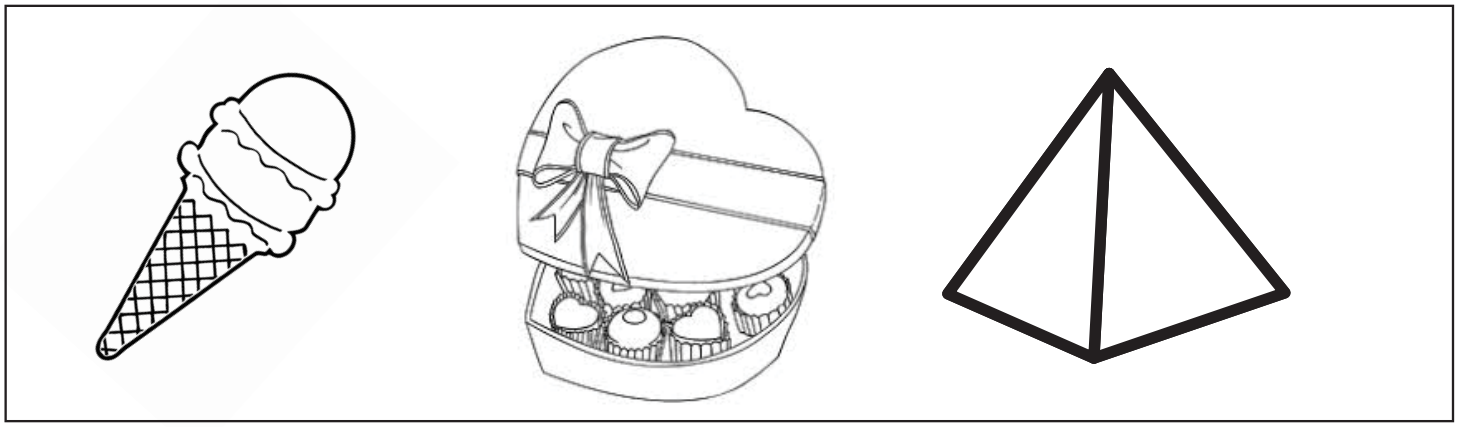
These polygons have special names



plus many more

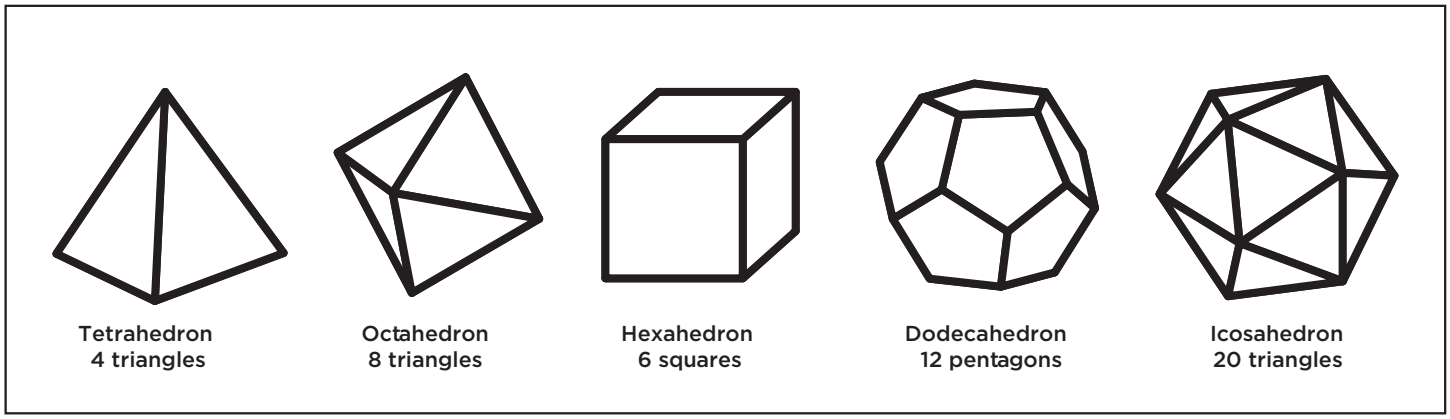
These shapes can be put together to create 3D shapes called Polyhedrons

3 dimensional (3D) shapes are solids, something you can hold that has a length, a width, and a height

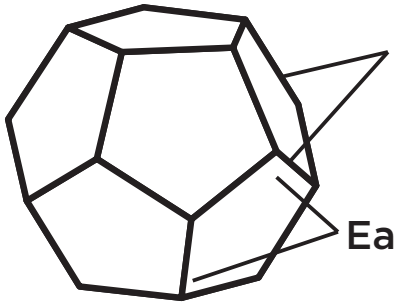


3D shapes that are made from polygons are called polyhedrons.
A Pyramid and a Box are the 2 common ones,

Some polyhedrons are made from only regular polygons and have special names.



plus many more

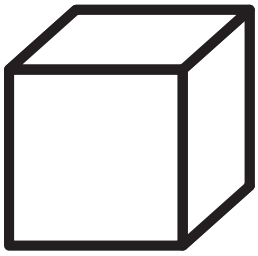


Each side is the same length

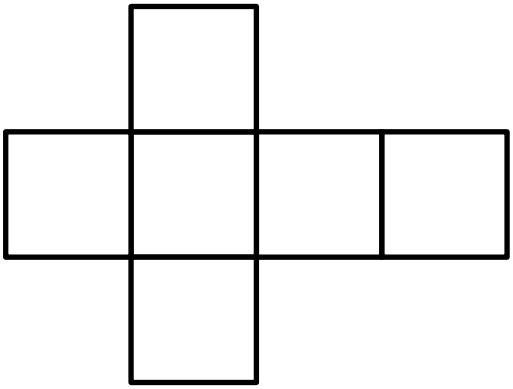
Each angle is the same

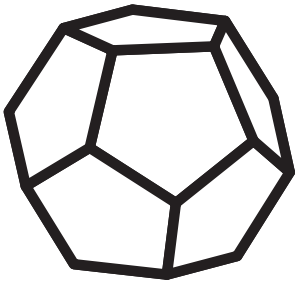
Each polyhedron is made of a special number of sides and cane be folded from a flat sheet of paper

Finish Numbering each face of the polyhedron

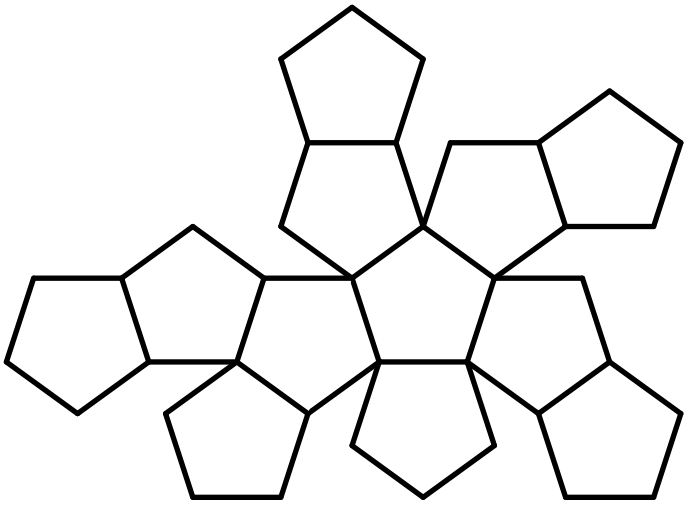


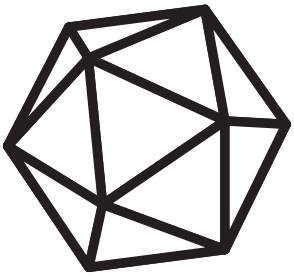
Hexahedron
6 squares



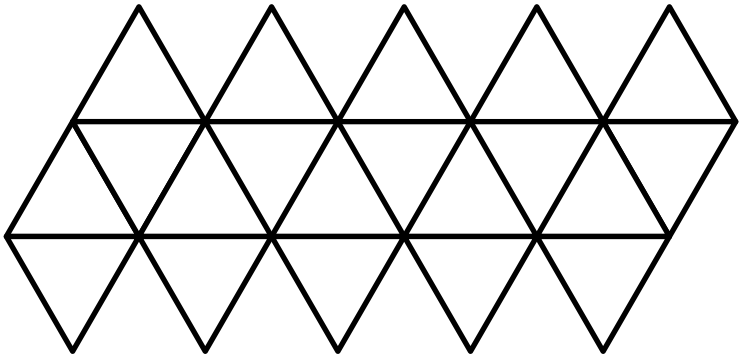


Dodecahedron
12 pentagons

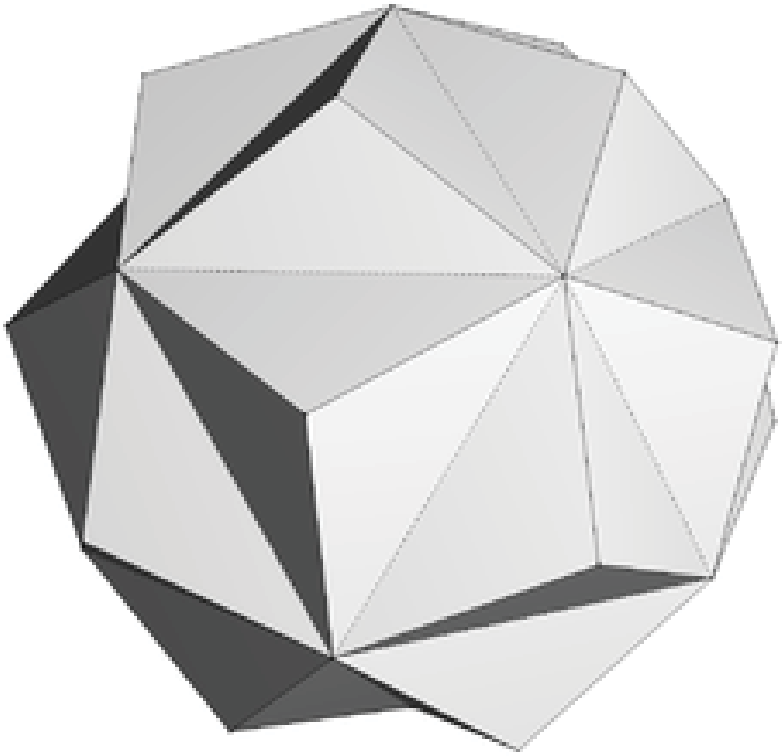




Icosahedron
20 triangles



This is is called a stellated icosahedron



It has 60 sides

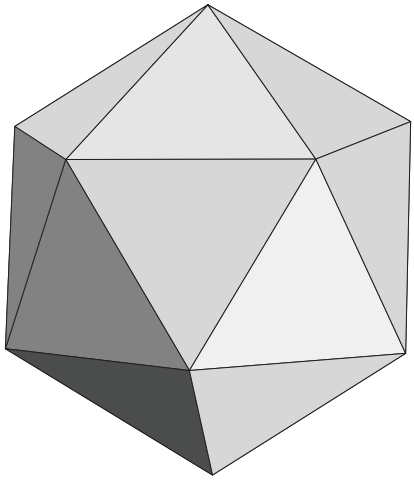
Bonus:
are all the sides the
Same length?

_____

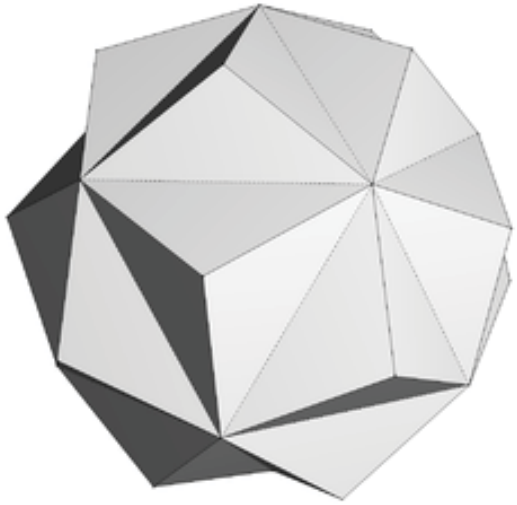
Bonus:
are all the angles
The same?

_____

How do you get from an icosahedron to a stellated icosahedron?

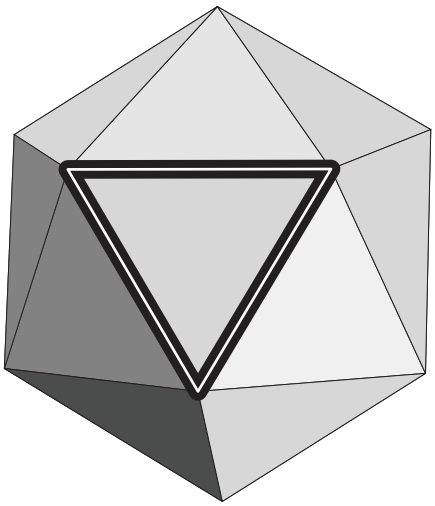


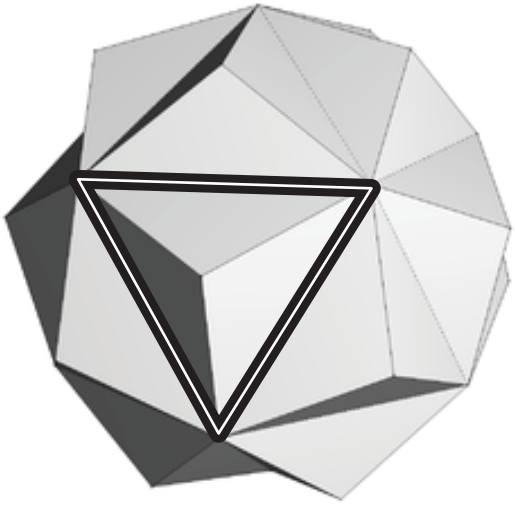
Icosahedron

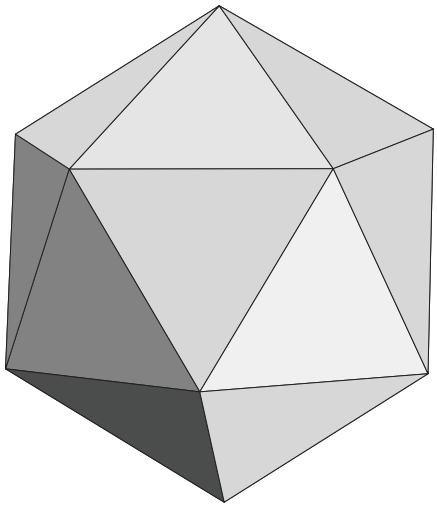


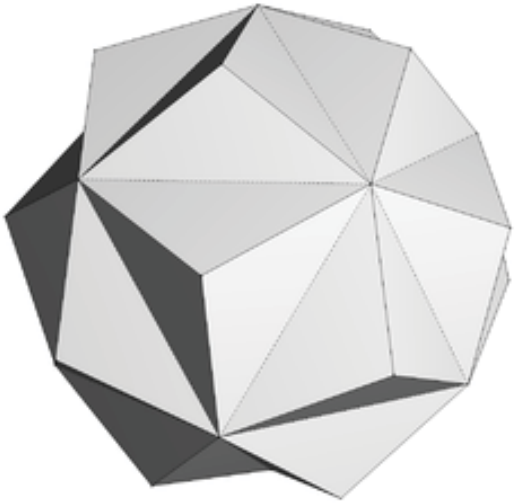
Stellated icosahedron

Every triangles becomes a 3 sided pyramid







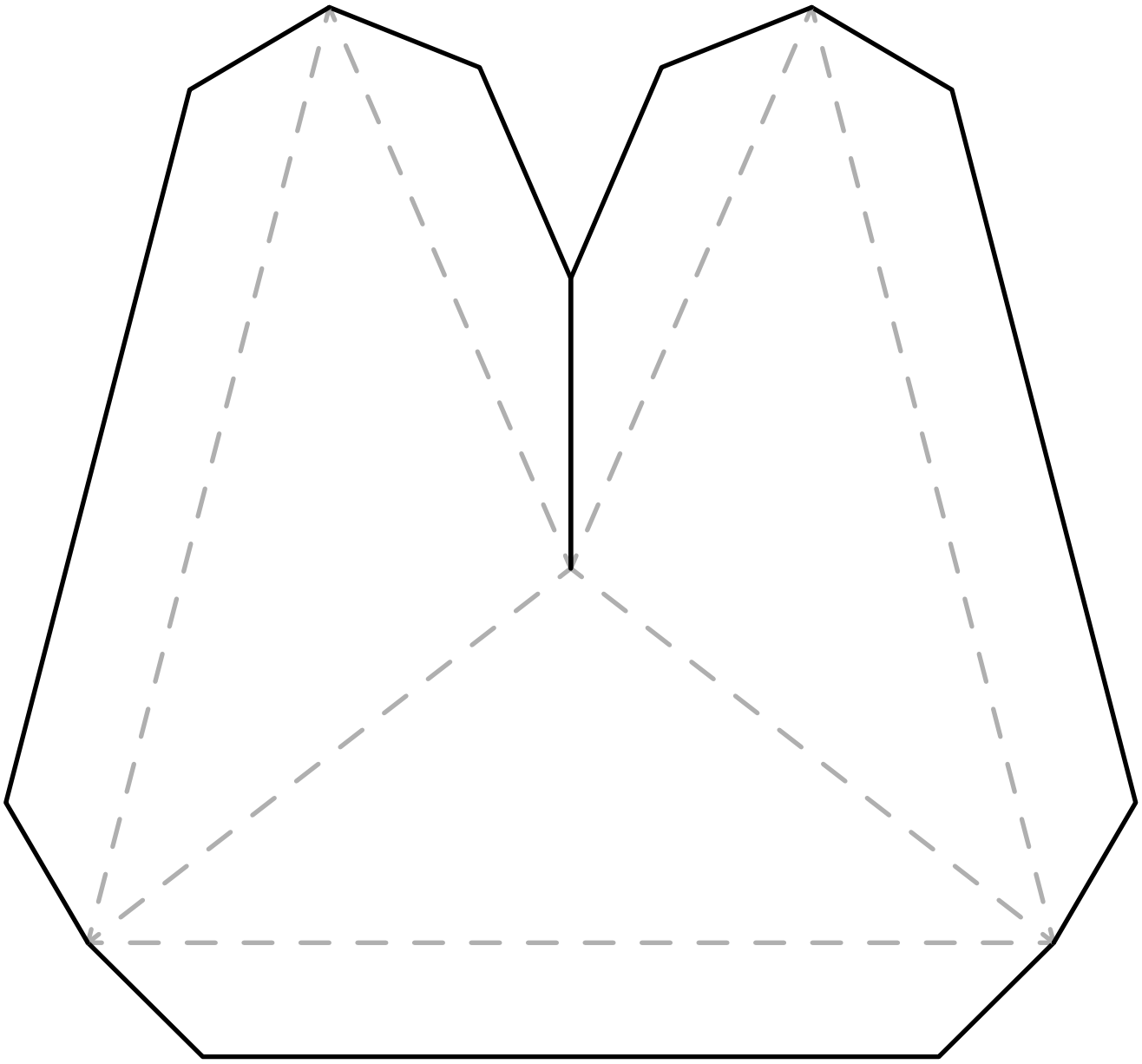


20 sides

60 sides

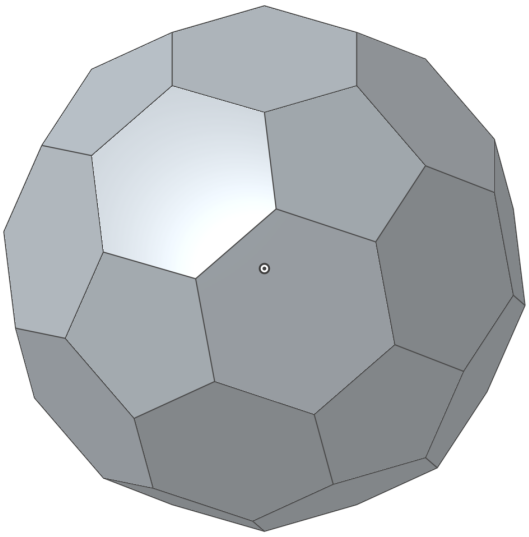
20 x ___ = 60?

Make your own triangle pyramid!



Bonus questions:

A soccer ball is based on a popular polyhedron that is called a truncated icosahedron



It has 32 faces total.

What polygons make up this polyhedron?

How Many of each polygon?

Where else have you seen objects that might be polyhedrons? Write or draw about them below