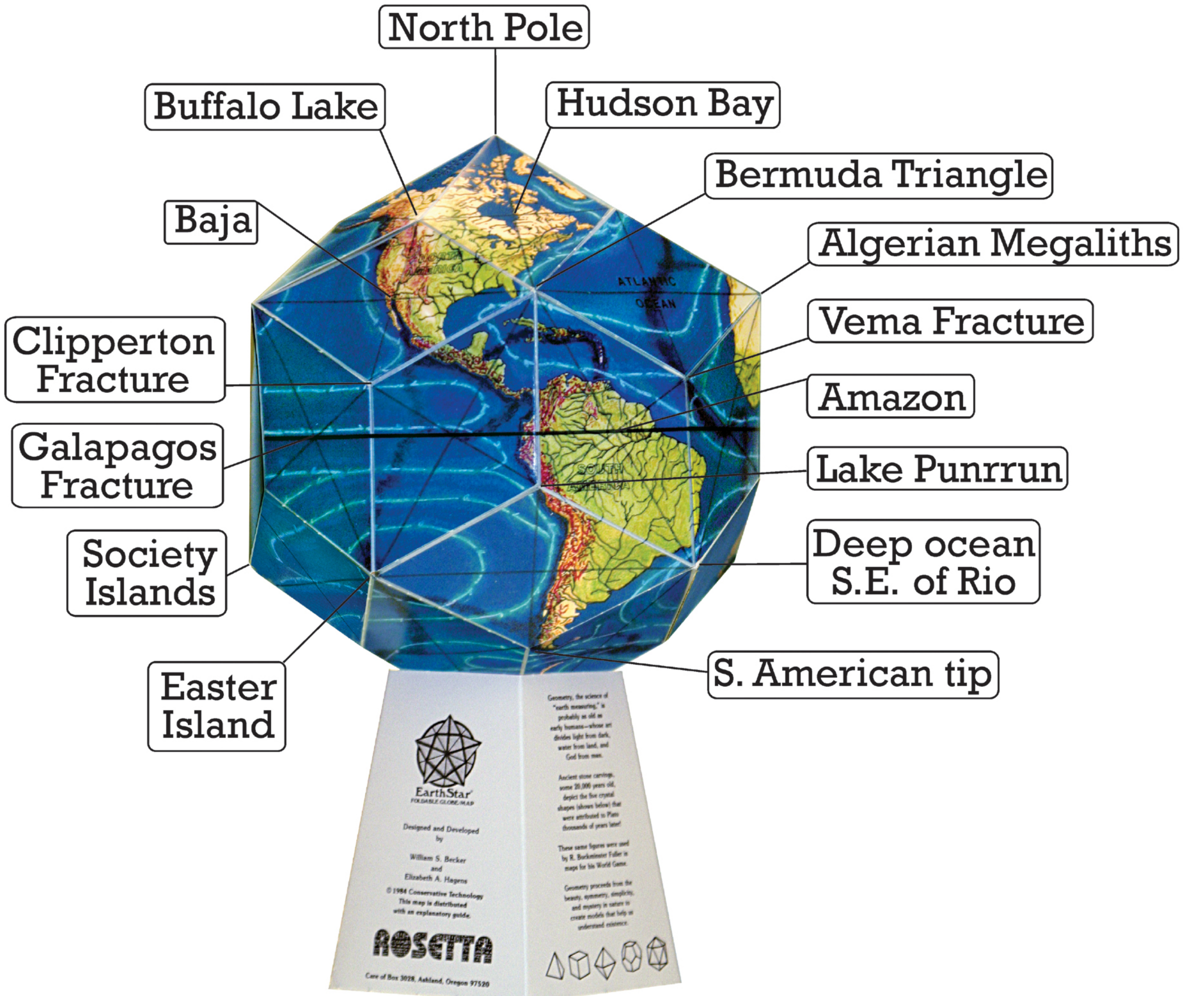
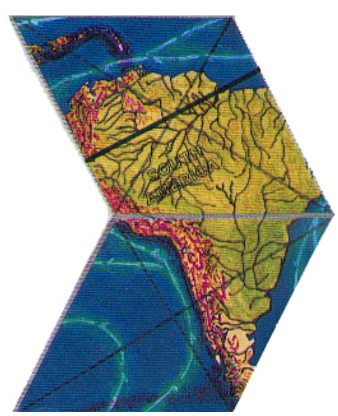
EarthStar Globe: The Natural Geometry of the Earth

The Science Behind Earth Magic

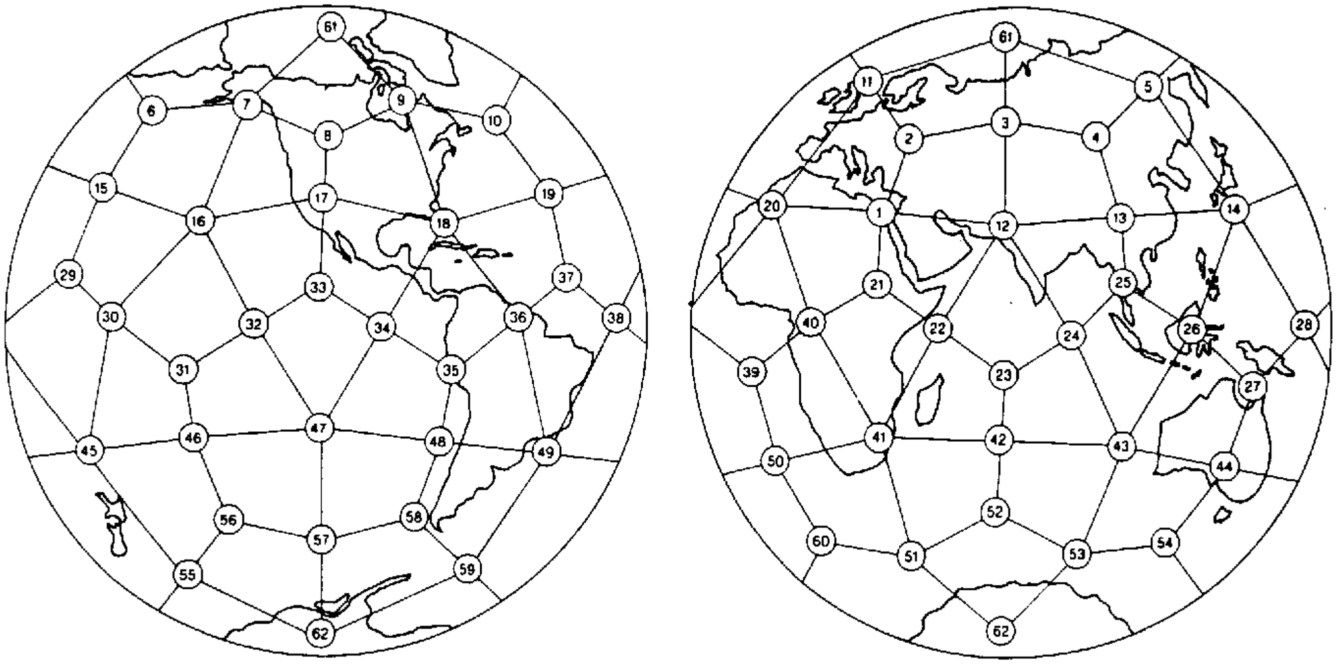


The Becker-Hagens EarthStar has been featured in numerous books. It shows the natural geometry of the Earth, and the geometric relationship of megaliths and sacred places around the world. The EarthStar Map easily assembles into a globe, or it can be displayed flat.



Two of EarthStar's 30 diamonds.

Megaliths Around the World: Built to the Same Geometric Plan



Megalith: Large stone monument.

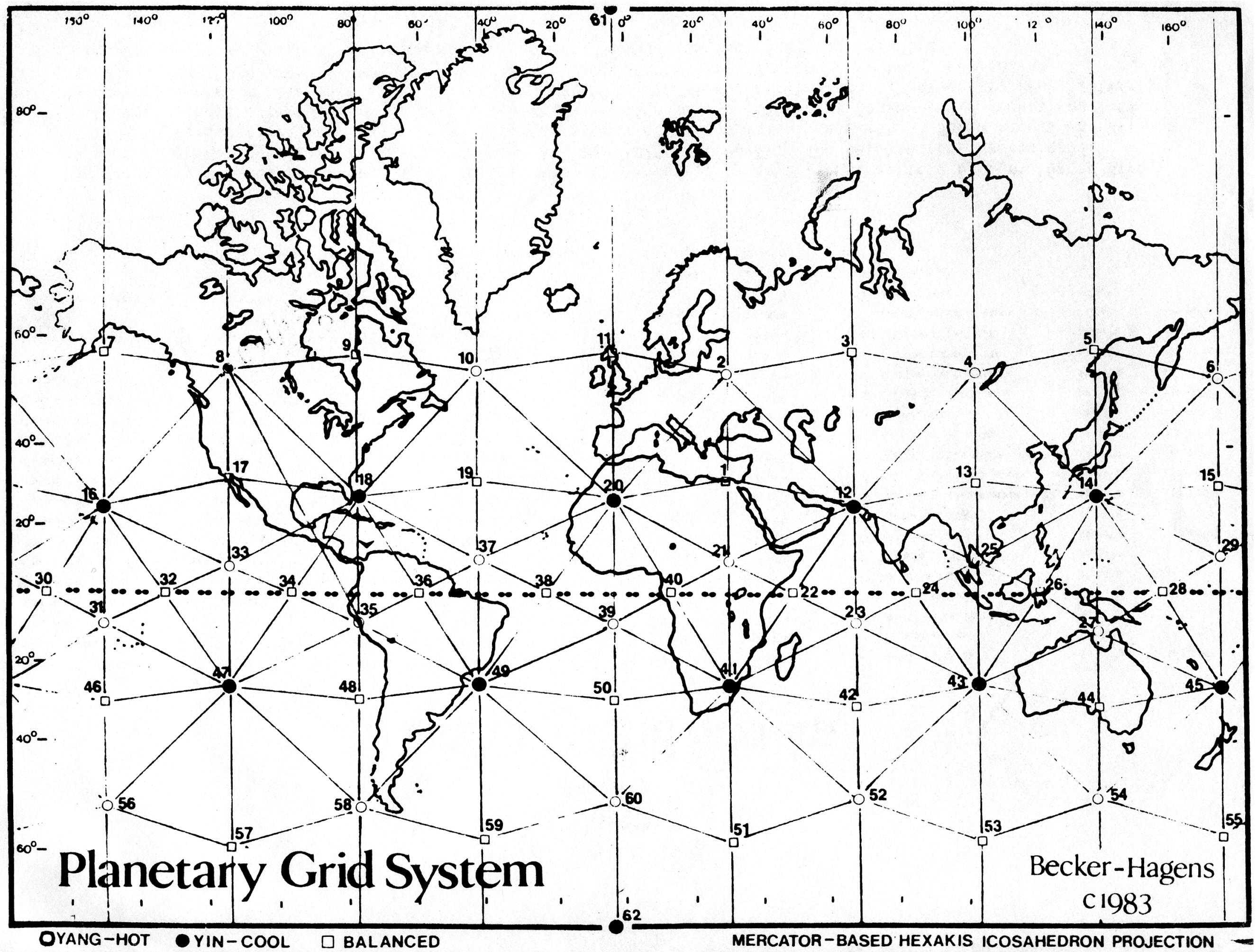
1. Giza, the Great Pyramid
3. Tyumen oil field, USSR
4. Lake Baikal, USSR, many unique plants and animals
9. Hudson Bay, present location of north magnetic pole
11. Northern British Isles, Maes Howe, Ring of Brodgar, Callanish
12. Mohenjo Daro-Rama Empire culture
13. Pyramids in Xian, China, the largest in the world
14. Southern Japan Dragon's Triangle, great seismic activity
16. Hamakulia, nearby lies Hawaii, scene of high volcanic and earthquake activity
17. The sophisticated canal civilization of Cibola
18. Bimini, the site of huge man-made walls underwater, discovered in 1969, the date that Edgar Cayce had predicted that evidence of Atlantis would be discovered
20. Algerian megalithic ruin
21. Megaliths at Axum, the Coptic Christian center in Ethiopia
25. Bangkok and Angkor Wat
26. Sarawak, Borneo, site of ancient megalithic structures
28. Pohnpei Island, Micronesia, site of the megalithic city of Nan Madol
35. Lima, Peru, boundary of the Nazca Plate, Pisco, the Candlestick of the Andes & the Nazca Lines
40. Gabon, West Africa, natural atomic reactor in operation about 1.7 million years ago
41. Zimbabwe with its ancient mines & structures
44. The Maralinga Atomic Test Site, which also has megalithic ruins
47. Easter Island and its megaliths
62. German underground Antarctic base?

Based on *Ancient Stones Speak: A Journey to the World's Most Mysterious Megalithic Sites,* David D. Zink, Dutton 1979.

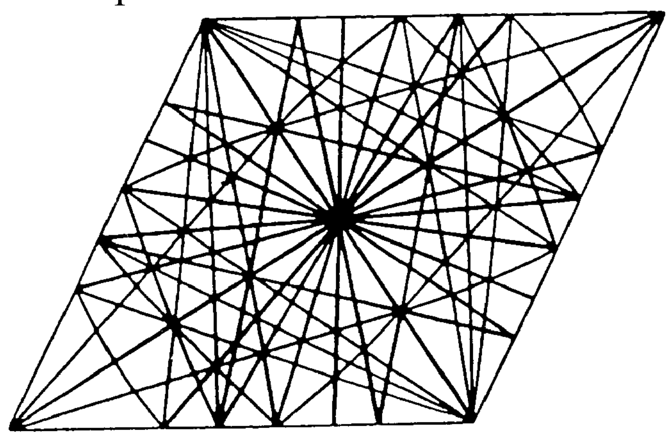
EarthStar Grid Points
Latitudes and Longitudes & Geographic Features

No.	Lat.		Long.		Description
1	31.72°	N	31.2°	E	On the Egyptian continental shelf, in the Mediterranean Sea, at approximately the midpoint between the two outlets of the Nile at Masabb Rashid and Masabb Dumyat
2	52.62°	N	31.2°	E	On the Sozh River east of Gomel, at the boundary junction of three Soviet republics - Ukraine, Byelorussia, and Russia
3	58.28°	N	67.2°	E	In the marshy lowlands just west of Tobolsk
4	52.62°	N	103.2°	E	In the lowlands north of the southern tip of lake Baykal, at the edge of highlands
5	58.28°	N	139.2°	E	In the highlands along the coast of the Sea of Okhotsk
6	52.62°	N	175.2°	E	Slightly east of Attu at the western tip of the Aleutian Islands
7	58.28°	N	148.8°	W	Edge of continental shelf in the Gulf of Alaska
8	52.62°	N	112.8°	W	Buffalo, Alberta, at the edge of highlands in lowlands
9	58.28°	N	76.8°	W	Just east of Port Harrison on Hudson's Bay
10	52.62°	N	40.8°	W	Gibbs Fracture Zone
11	58.28°	N	4.8°	W	Loch More on the west coast of Scotland
12	26.57°	N	67.2°	E	On the edge of the Kirthar Range bordering the Indus River Valley, directly north of Karachi
13	31.72°	N	103.2°	E	At the east edge of the Himalayas in Szechuan Province, just West of the Jiuding Shan summit
14	26.57°	N	139.2°	E	At the intersection of Kydshu Palau Ridge, the West Mariana Ridge, and the Iwo Jima Ridge
15	31.72°	N	175.2°	E	At the intersection of Hess Plateau, the Hawaiian Ridge, and the Emperor Seamounts
16	26.57°	N	148.8°	W	Northeast of Hawaii, midway between the Murau Fracture Zone and the Molokai Fracture Zone
17	31.72°	N	112.8°	W	Cerro Cubabi, a highpoint just south of the US/ Mexico border near Sonoita and lava fields
18	26.57°	N	76.8°	W	Edge of continental shelf near Great Abaco Island in the Bahamas
19	31.72°	N	40.8°	W	Atlantis Fracture Zone
20	26.57°	N	4.8°	W	In El Eglab, a highland peninsula at the edge of the Sahara Desert sand dunes
21	10.81°	N	31.2°	E	Sudan Highlands, at the edge of White Nile marsh fields
22	0°		49.2°	E	Somali Abyssal Plain
23	10.81°	S	67.2°	E	Vema Trench (in the Indian Ocean) at the intersection of the Mascarene Ridge, the Carlsberg Ridge and Maldive Ridge into the Mid-Indian Ridge
24	0°		85.2°	E	Ceylon Abyssal Plain
25	10.81°	N	103.2°	E	Kompong Som, a natural bay on the southern coast of Cambodia southwest of Phnom Penh
26	0°		121.2°	E	At the midpoint of Teluk, Tomini, a bay in the northern area of Sulawesi
27	10.81°	S	139.2°	E	Midpoint of the mouth of the Gulf of Carpentaria
28	0°		157.2°	E	Center of Solomon Plateau
29	10.81°	N	175.2°	E	Midpoint of abyssal plain between Marshall Islands, Mid Pacific Mountains and the Magellan Plateau
30	0°		166.8°	W	Nova Canton Trough

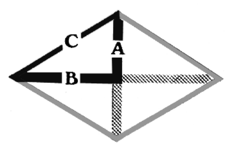
31	10.81°	S	148.8°	W	Society Islands
32	0°		130.8°	W	Galapagos Fracture Zone
33	10.81°	N	112.8°	W	East end of the Clipperton Fracture Zone
34	0°		94.8°	W	Junction of the Cocos Ridge and the Carnegie Ridge, just west of the Galapagos Islands
35	10.81°	S	76.8°	W	Lake Punrrun in Peruvian coastal highlands
36	0°		58.8°	W	State of Amazonas, at tip of minor watershed highlands
37	10.81°	N	40.8°	W	Vema Fracture Zone
38	0°		22.8°	W	Romanche Fracture Zone
39	10.81°	S	4.8°	W	Edge of Mid-Atlantic Ridge in Angola Basin just southeast of Ascension Fracture Zone
40	0°		13.2°	E	Gabon highlands, at the intersection of three borders
41	26.57°	S	31.2°	E	L'uyengo on the Usutu River in Swaziland
42	31.72°	S	67.2°	E	Intersection of the Mid-Indian Ridge with the Southwest Indian Ridge
43	26.57°	S	103.2°	E	Tip of the Wallabi Plateau
44	31.72°	S	139.2°	E	In a lowland area just east of St. Mary Peak (highest point in the area) and north east of Rio de Janeiro
45	26.57°	S	175.2°	E	At the edge of the Hebrides Trench, just southwest of the Fiji Islands
46	31.72°	S	148.8°	W	Undifferentiated South Pacific Ocean
47	26.57°	S	112.8°	W	Easter Island Fracture Zone
48	31.72°	S	76.8°	W	Nazca Plate
49	26.57°	S	40.8°	W	In deep ocean, at edge of continental shelf, southeast of Rio de Janeiro
50	31.72°	S	4.8°	W	Walvis Ridge
51	58.28°	S	31.2°	E	Enderby Abyssal Plain
52	52.62°	S	67.2°	E	Kerguelen Plateau
53	58.28°	S	103.2°	E	Ocean floor, midway between Kerguelen Abyssal Plain and Wilkes Abyssal Plain
54	52.62°	S	139.2°	E	Kangaroo Fracture Zone
55	58.28°	S	175.2°	E	Edge of Scott Fracture Zone
56	52.62°	S	148.8°	W	Udintsev Fracture Zone
57	58.28°	S	112.8°	W	Eltanin Fracture Zone
58	52.62°	S	76.8°	W	South American tip, at the edge of the Haeckel Deep
59	58.28°	S	40.8°	W	South Sandwich Fracture Zone
60	52.62°	S	4.8°	W	Boivet Fracture Zone
61					North Pole
62					South Pole

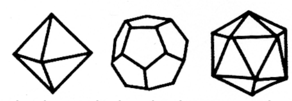

Planetary Grid System
Becker-Hagens
c1983
YANG-HOT
YIN-COOL
BALANCED
MERCATOR-BASED HEXAKIS ICOSAHEDRON PROJECTION

Universal Proportions in the Earth & EarthStar Globe

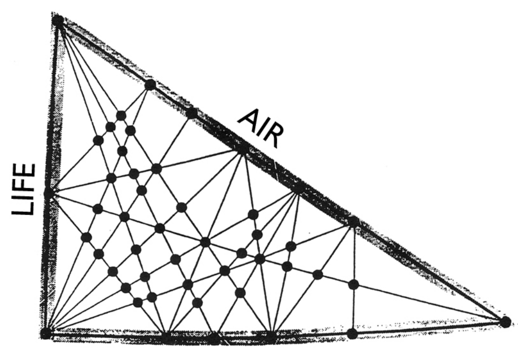


How can I map the EarthStar lines in my area?
Copy this diamond on to clear plastic to overlay the EarthStar globe.





Every line of the planetary grid is a great circle (equator), and each of the UVG Basic Triangles is the same-with side lengths measuring 1440, 2160, and 2592 miles. The meanings assigned to the line segments are taken from the nested geometric figures which make them – and so symbolized by Pythagorean geometers.



- **Dodecahedron** edges form **LIFE** lines.
- **Icosahedron** edges form **WATER** lines.
- **Octahedron** edges form **AIR** lines and overlap all WATER and LIFE lines. Five octahedra will fit within the 62 major intersections of the grid.

WATER LINE
2160 miles - Length determined by planar geometry.

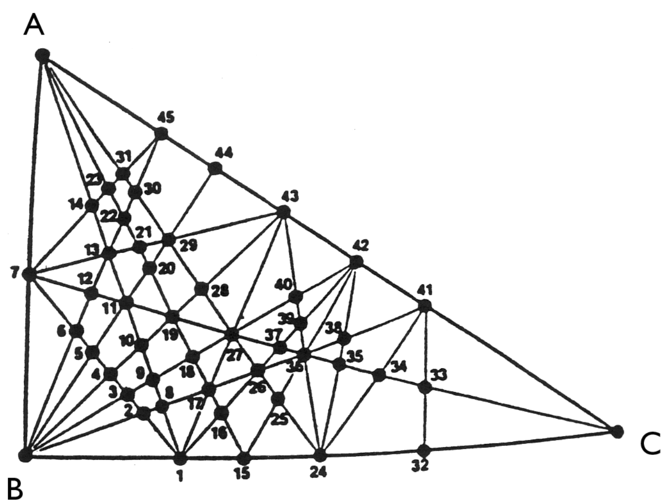
- 666 (Number of the Beast) 6 x 6 x 6= 216
- 2160 years in a cosmic (zodiacal) month
- 2160 = 5 x 8 x 3 x 9 x 2 x 1 (the exact synodic period of Venus is 583.921 days)
- 60° of arc = 216000 seconds. Each triangular face angle of the icosahedron is 60°.

2176 miles - Average length determined by planar and spherical geometry.
217600 is the Biblical "flood date"

AIR LINE
2592 miles - Length using spherical geometry.
- 25,920 years in the total cycle of precession

LIFE LINE
1440 miles - Average length using planar and spherical geometry.
- 1440 minutes in a day Bible refers to the 144,000 who will be saved to re-establish the kingdom of heaven on earth after a great catastrophe
- LIFE lines make 30 intersections with WATER lines, 20 with AIR lines, and are opposite 12 AIR/WATER line intersections.
- 12 x 120 (triangles on the EarthStar globe) = 1440
- 20 x 72 years (1° of precession, and also 1/30 of a cosmic month) = 1440
- 144 is a harmonic of the speed of light

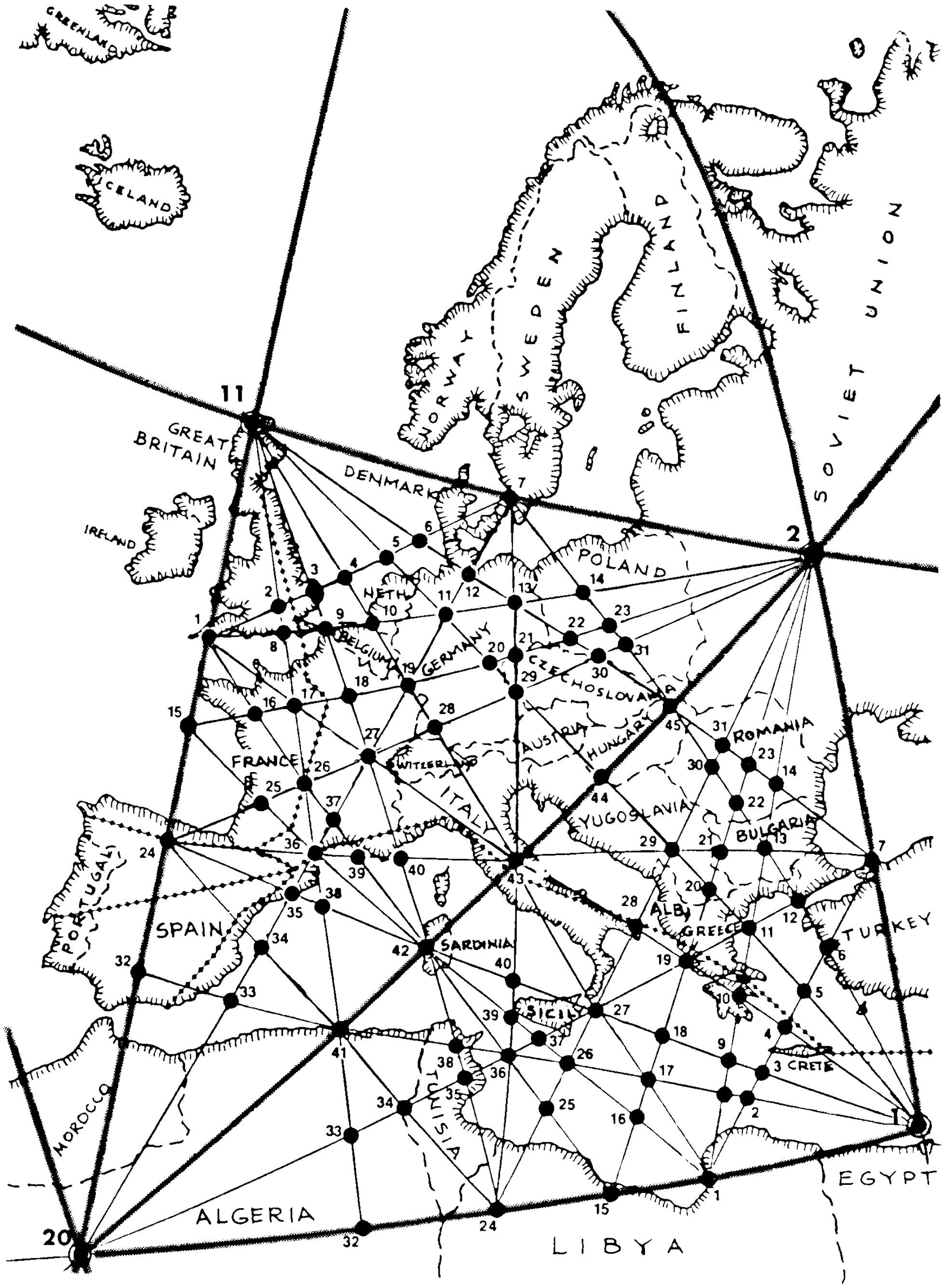
The Great Pyramid at Gizeh falls at a UVG diamond center.
Distances within the Triangle reveal a number of "cosmic counts", canonical numbers that occur throughout creation, from the galactic spiral to molecular orbits. The synodic period is the time that it takes for the planet to reappear at the same point in the sky, relative to the Sun, as observed from Earth.



Proportional Distances:
B - 7 = 780 Mars synodic period
7 - 1 = 280 human gestation
B - 1 = 584 Venus synodic period
B - 24 = 399 Jupiter synodic period
B - 35 = 378 Saturn synodic period
24 - 35 = 116 Mercury synodic period

The geometry for our Unified Vector Geometry (UVG) sphere of the world grid is taken from R. Buckminster Fuller's *Synergetics 2*.

EarthStar Grid Points Over Europe

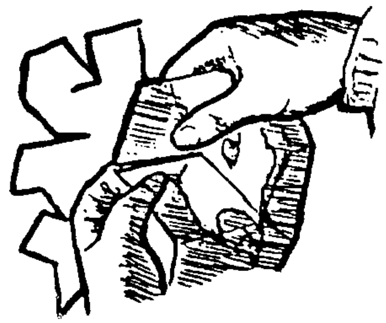


The diamond-pattern lines of the EarthStar Globe show a transcontinental system of energy (“ley”) lines, including the "Michael Line" in England.

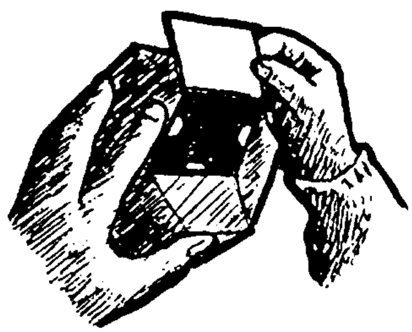
In triangle 11-20-2, we find Oxford (2); North Sea oil deposits (4-5-6); Rotterdam (9); Hamelin, village of the Pied Piper (17); Berlin (13); Chartres (17); Alta Mira (24); Frankfurt (19); Barcelona (35); Cordoba (32); Hamburg (12); and Lourdes (line 24-36). In triangle 20-2-1, we find Athens (10); Delphi (19); and Assisi, home of St. Francis (43).

Assembling the EarthStar Globe is Fun

You will need transparent ("Scotch") tape.
1. Crease the folds embossed into the paper.
2. Place the globe face down on a flat surface such as a table top.

3. Begin taping together the edges of the EarthStar Globe. Apply the tape on the inside, so it doesn't show.



4. The last diamond of the globe is attached on one side. Place three pieces of tape on the inside of each of the last three edges and gently press the diamond down to make a secure, invisible closure.



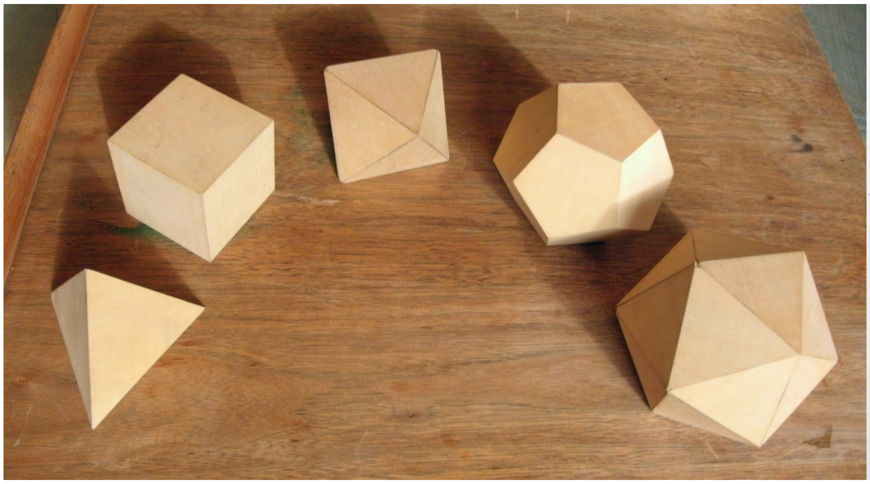
5. Assemble the stand.

VORTEXMAPS.com

Geometric Shapes, Maps, & the EarthStar Globe

plus 11 shapes you can fold up!

by Dan Shaw




Geometric Shapes, Maps, & the EarthStar Globe ™

Regular Polygons, Platonic Solids, and Archimedean Solids

Contents

This book includes patterns for 11 shapes to assemble:
5 Platonic Solids:
Cube, Tetrahedron, Octahedron, Icosahedron & Dodecahedron

& 6 other shapes:

- Pyramid
- Rhombic Dodecahedron
- Hexakis Icosahedron
- Etruscan Dodecahedron
- Star Tetrahedron
- Great Dodecahedron

Geometry: Literally, Earth-measuring
Maps are an especially useful and beautiful application of geometry. The Earth can be represented as a spherical globe, and also mapped on to the various geometric shapes. This activity introduces some concepts important to understanding and using maps. Assembling the shapes is a fun way for you to learn about geometric shapes. The Earth seems to exhibit a natural geometry, as shown by the remarkable EarthStar Globe.

What You Will Need
You'll need scissors and some tape. Transparent ("Scotch" ™) tape works well, but since you can tape the insides of the shapes, you can use other kinds of tape instead. Putting the shapes together may take about an hour.

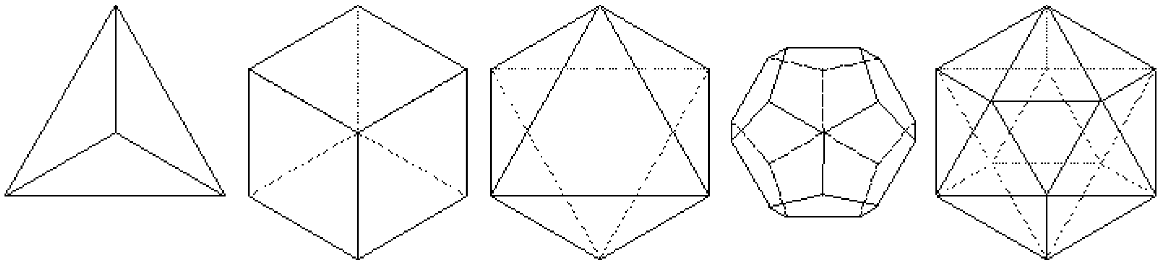
Optional

- You may want to decorate your shapes with colored pens and such before you assemble them, and after they are assembled you may want to string them together and hang them as a mobile from the ceiling or in a window.

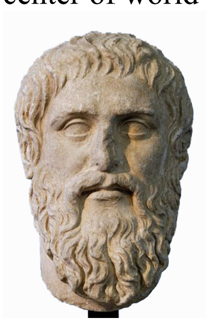
- A whole orange and a permanent marker are needed for an optional activity.

Note to Advanced Geometry Students:
If you already know that the Icosahedron is the dual of the Dodecahedron, then you can skim the first part.

Part 1:
The Five Simplest Shapes, the Platonic Solids

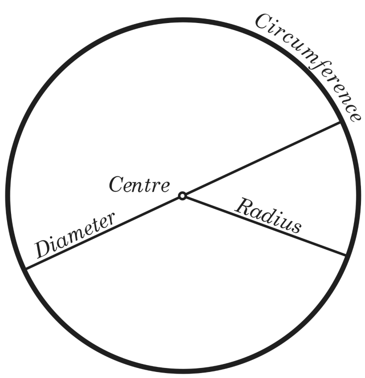


These five 3-dimensional shapes with equal sides and equal angles we call Platonic solids, after Plato, who studied in Egypt, and taught in Greece around 400 B.C., when Greece was a major center of world power and culture.

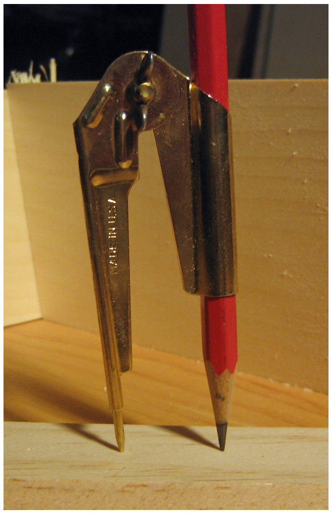


The Circle and Sphere

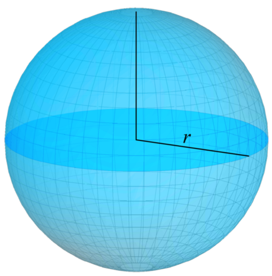
We begin with a circle, and a sphere.



This is a circle. All points on the circle (the circumference) are the same distance from the center. This distance is *r*, the radius.



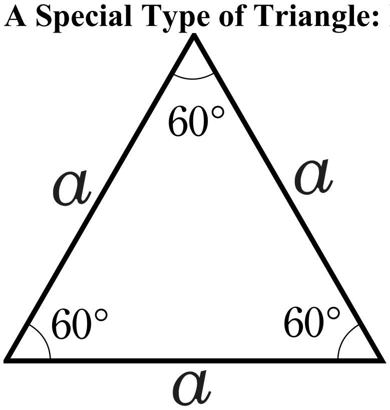
This tool, the compass, is used to draw a circle.



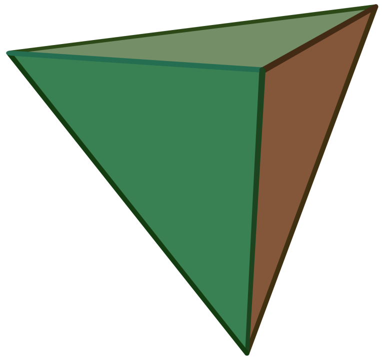
On a sphere, all points are the same distance from the center. The sphere is <u>not</u> one of the five Platonic Solids.

The 5 Simplest Geometric Solids

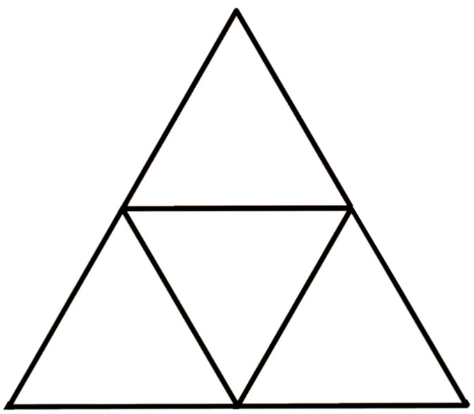
A Special Type of Triangle: Equilateral



The sides of this triangle are of equal length, and the angles are equal. It's important to know the name of this triangle, the equilateral triangle. The interior angles of any triangle always add up to 180 degrees. In the case of an equilateral triangle, all three angles are 60 degrees. Shapes like this triangle with equal length sides and equal angles are also called regular polygons. The root word *poly* means *many*.

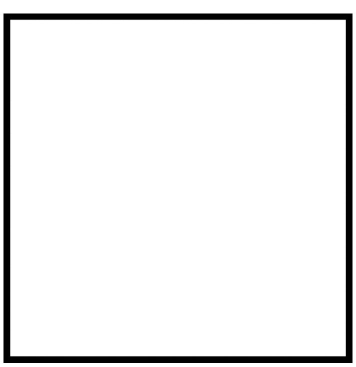


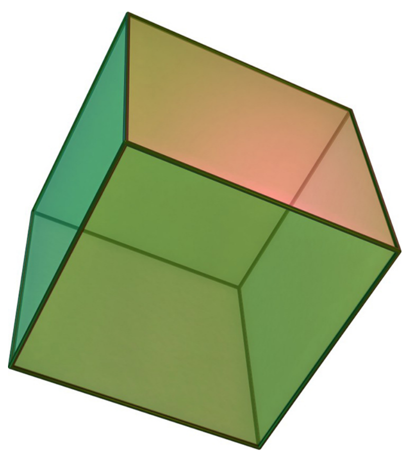
This shape, the tetrahedron, is made of four identical equilateral triangles. *Tetra* means *four*. Objects like these with many sides are called polyhedrons, or *polyhedra*.



This is the 'net' of the tetrahedron. If you cut along the outer edge of the four triangles, then fold the inside lines, the net forms a tetrahedron.

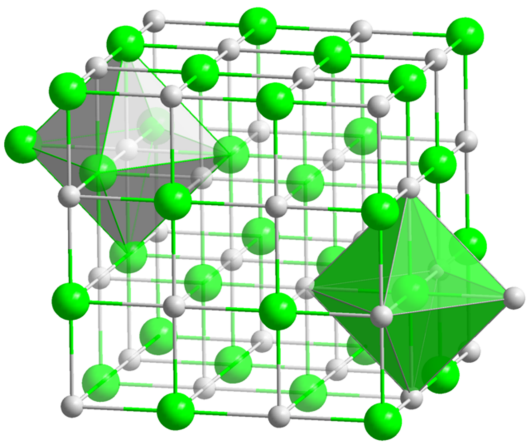
Equilateral shapes are the basic building blocks of the entire universe, from molecules and crystals, to plants and planets.



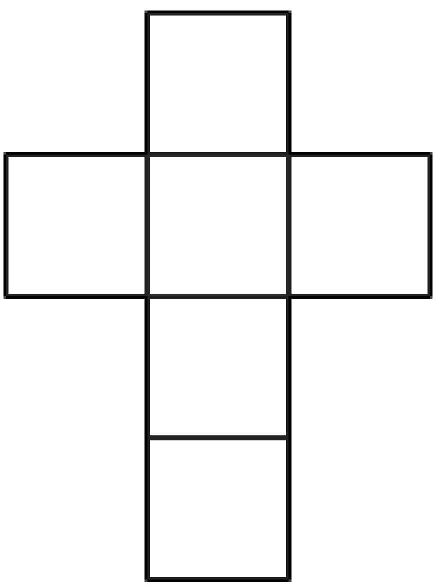


Squares have 4 equal sides and four equal (90 degree) angles. A cube is made of 6 squares.

Ordinary table salt, sodium chloride, is a cube.

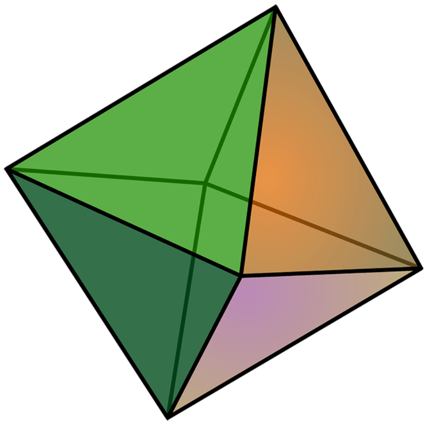


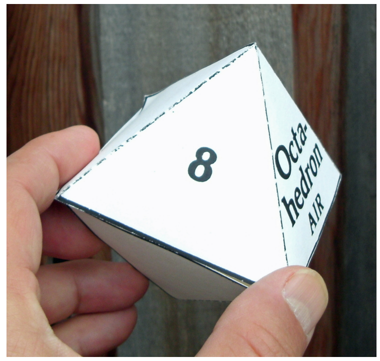
This is a diagram of the cubic structure of salt.



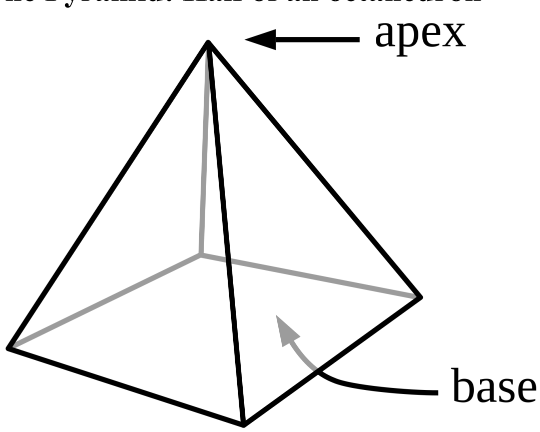
This is one way to flatten a cube into a net.

Octahedron

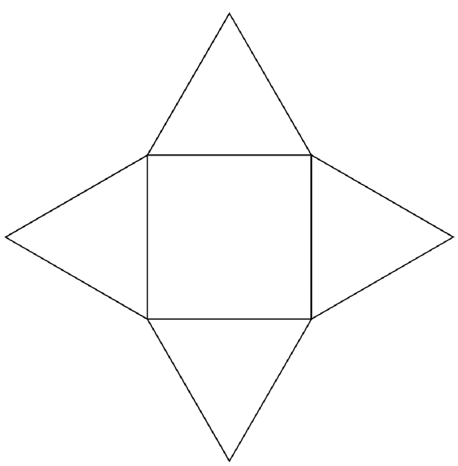




The Pyramid: Half of an octahedron

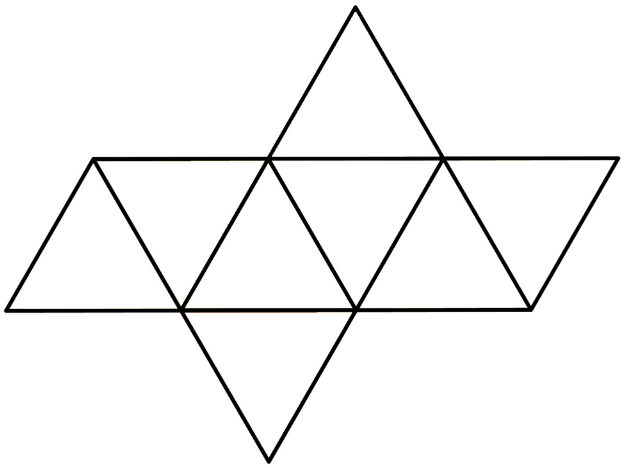


Put four triangles around a square, and you have a square-based pyramid. The highest point is called the apex. The pyramid is not a Platonic, or regular, solid, since the base is square.

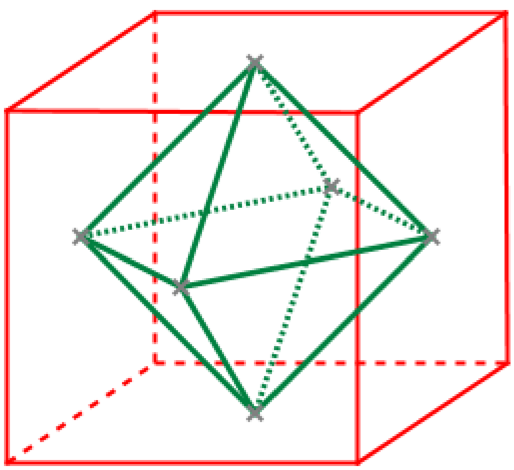


This is the net of the pyramid.

Put the bases of two pyramids together, and you have the octahedron, with 8 identical sides.



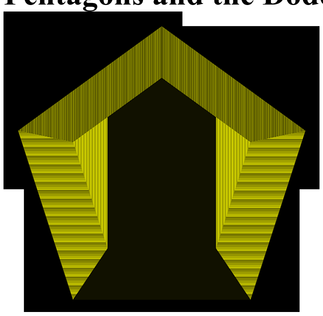
This is a net of the octahedron.



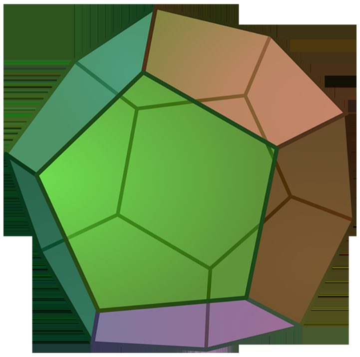
The cube and the octahedron are *dual* platonic solids, meaning the each point of the octahedron falls at the center of a face of the cube, and vice-versa.

- cube: 6 faces and 8 points
- octahedron: 8 faces and 6 points

Pentagons and the Dodecahedron

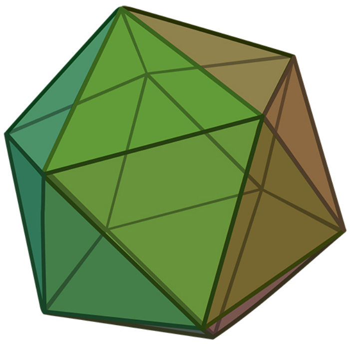


A shape with 5 equal sides is a pentagon.



12 pentagons form a dodecahedron.

Icosahedron

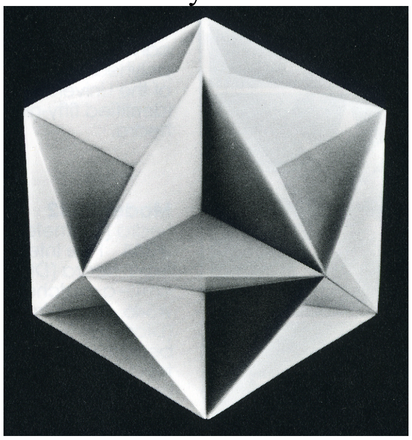


20 triangles form an icosahedron.

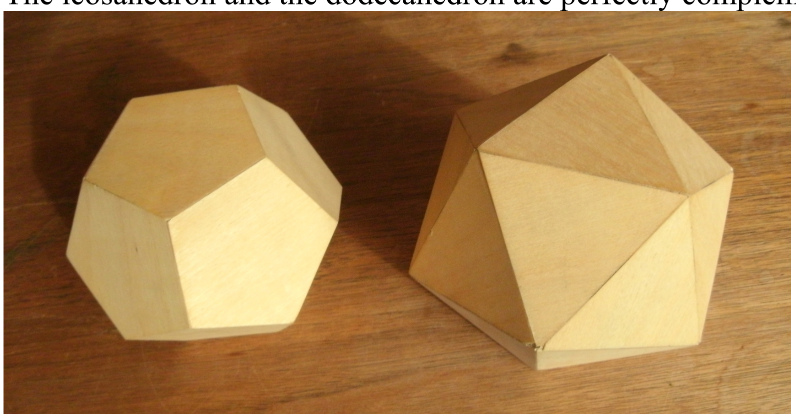
These dice show the number of sides on 4 of the Platonic Solids. Playing math games and other games with these dice is a great way to learn the shapes. Which Solid is missing?

Part 2: Beyond Platonic Shapes, the Archimedean Shapes

There are many beautiful variations of regular polyhedra.

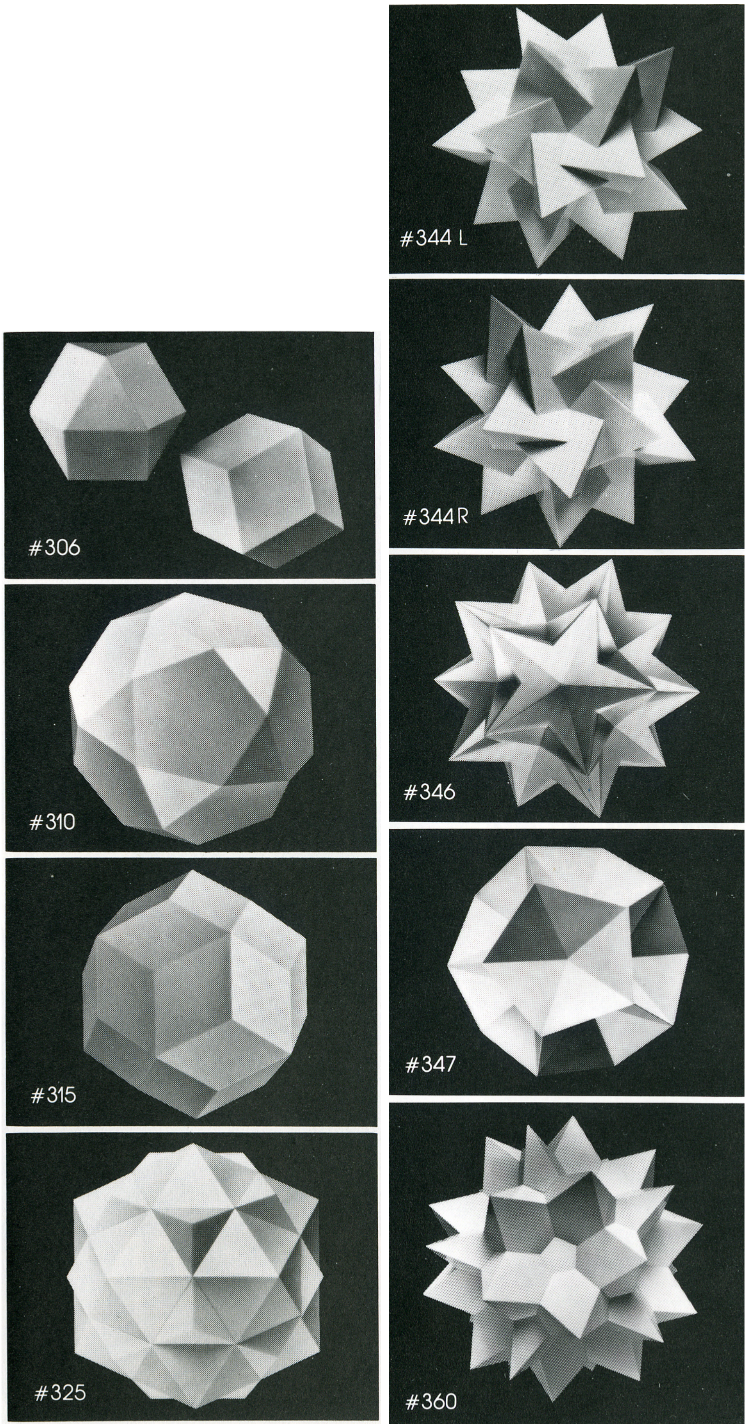


The icosahedron and the dodecahedron are perfectly complementary.



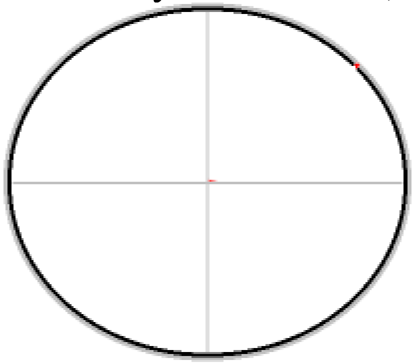
- icosahedron: 20 faces and 12 points
- dodecahedron: 12 faces and 20 points


There are a number of ways to combine these two complementary shapes.
Wooden shapes by John Swinnerton.



These polyhedra composed of two or more regular polygons are named *Archimedean* solids after Archimedes. (pronounced ark-i-me-deez). Archimedes of Syracuse in about 200 B.C. was one of the leading scientists of his era.

Part 3:
Geometry of the Earth, Geometric Mapping, & the EarthStar Globe



The Earth is not a perfect sphere; the distance around the Equator is greater than the distance around the North and South poles. This flattening of the Earth occurs because of the Earth's rotation, and the moon's gravity and tides.

This is a photograph of the Earth. A photo is not a map. This photograph of Earth shows half the Earth, and the other half is not visible.

The Problems with Maps

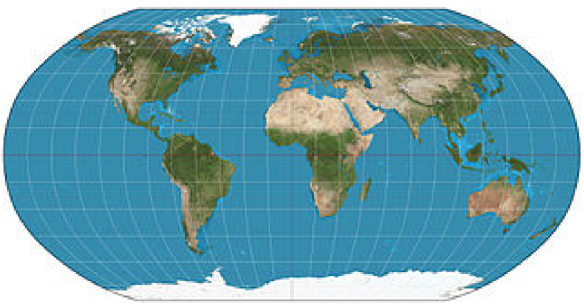
Maps use design elements to present selected information. To present that information effectively, maps necessarily leave out a lot of non-essential information.

It is impossible to accurately represent the nearly spherical Earth on a flat map. Try it yourself. Draw a globe onto an orange; it need not be accurate, but include the North and South poles and the Equator. Then peel the orange and lay it flat on a table. The orange peel splits up and distances and directions are distorted.

Mapmakers have found many ways to depict the Earth on a flat map, and each method, called a projection, has advantages and disadvantages. The science of making maps is called cartography.

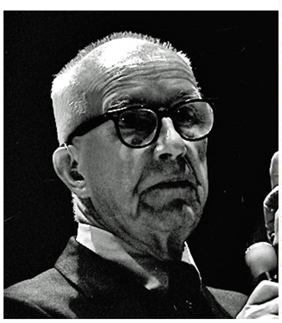
On some maps, such as the Mercator map above, accurate representation of distances is sacrificed for accurate directions.

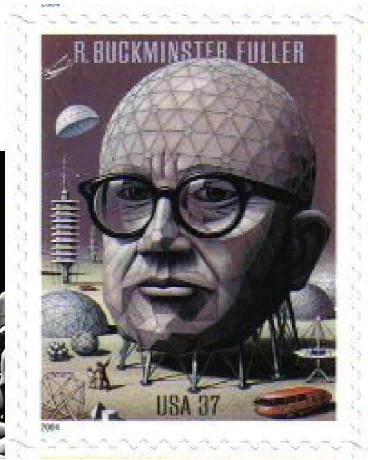
When accuracy is important, mapmakers usually choose a projection designed to minimize distortion of the area or feature(s) they are trying to show.



This Robinson projection map depicts the Equator and Africa quite accurately, but to do so the North and South poles have been stretched out.

In 1946 the US Patent Office issued the first cartographic patent to Buckminster "Bucky" Fuller.





Fuller is best known for his geodesic domes, as seen on this commemorative postage stamp.

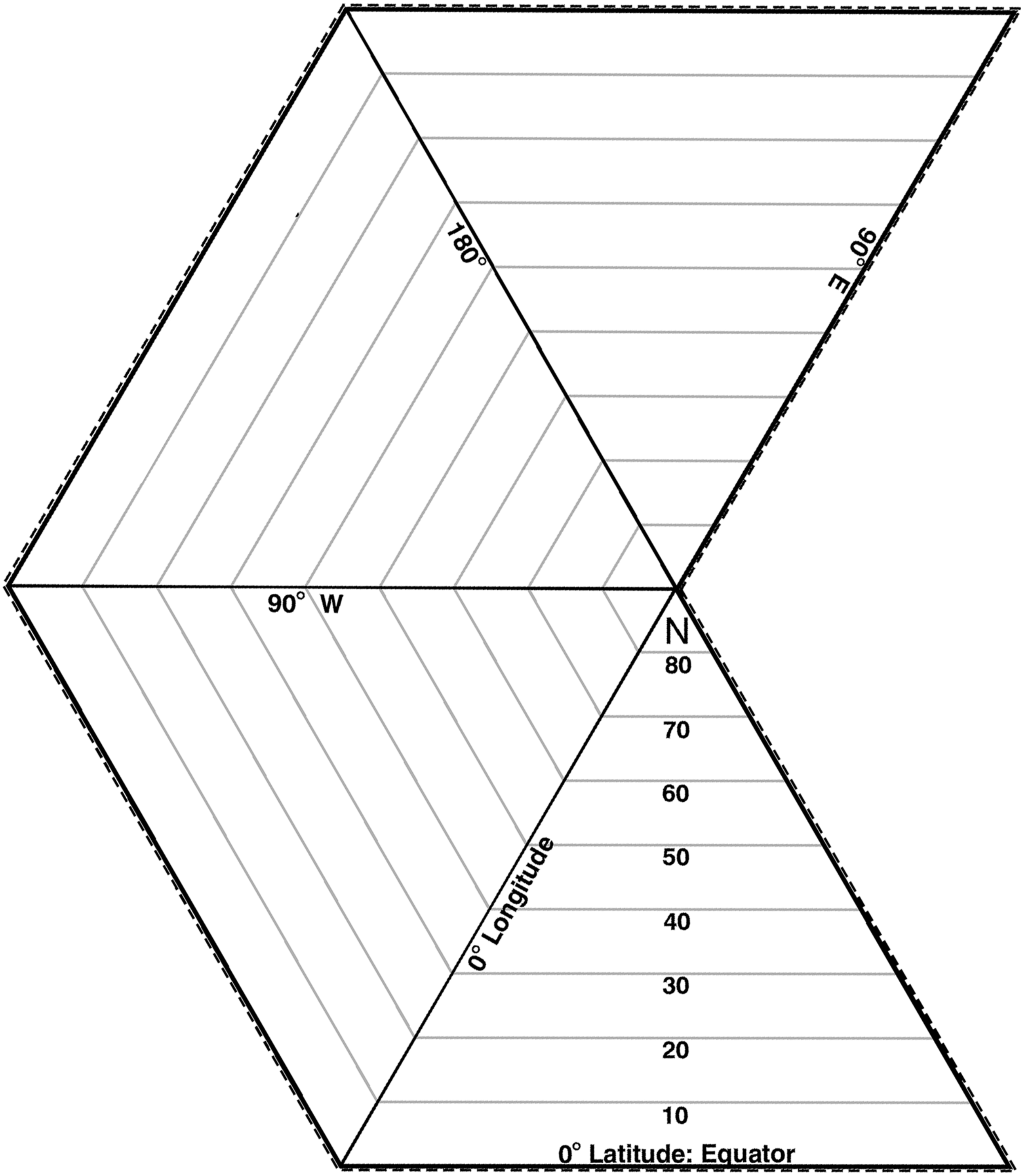
Fuller's projection of the Earth onto a geometric map evenly distributes any distortions of the continents, 'hiding' them in the oceans. Fuller used an icosahedron, and called it the Dymaxion map.
When displayed flat, it shows the continents very neatly.

This Dymaxion map shows world population, and temperature.

The Great Pyramid: World’s first geometric map

photo by Nina Aldin Thune

The apex of the pyramid represents the North Pole, and the perimeter line around the base represents the Equator. The perimeter of the Great Pyramid in Egypt is an extremely accurate fraction of the Earth’s Equator, making it the first “geometric map”.

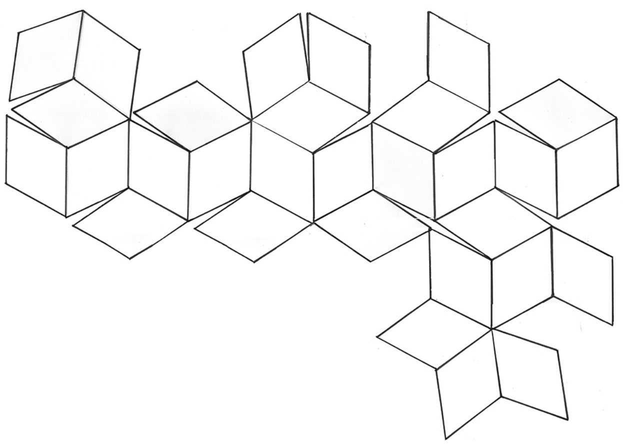


180°
90° E
90° W
N
80
70
60
50
40
30
20
10
0° Longitude
0° Latitude: Equator

The EarthStar Globe

© 1984 Bethe A. Hagens and Bil Becker

The EarthStar Globe is a combination of the icosahedron and the dodecahedron.



The EarthStar globe is made from 30 diamond-shaped pieces.

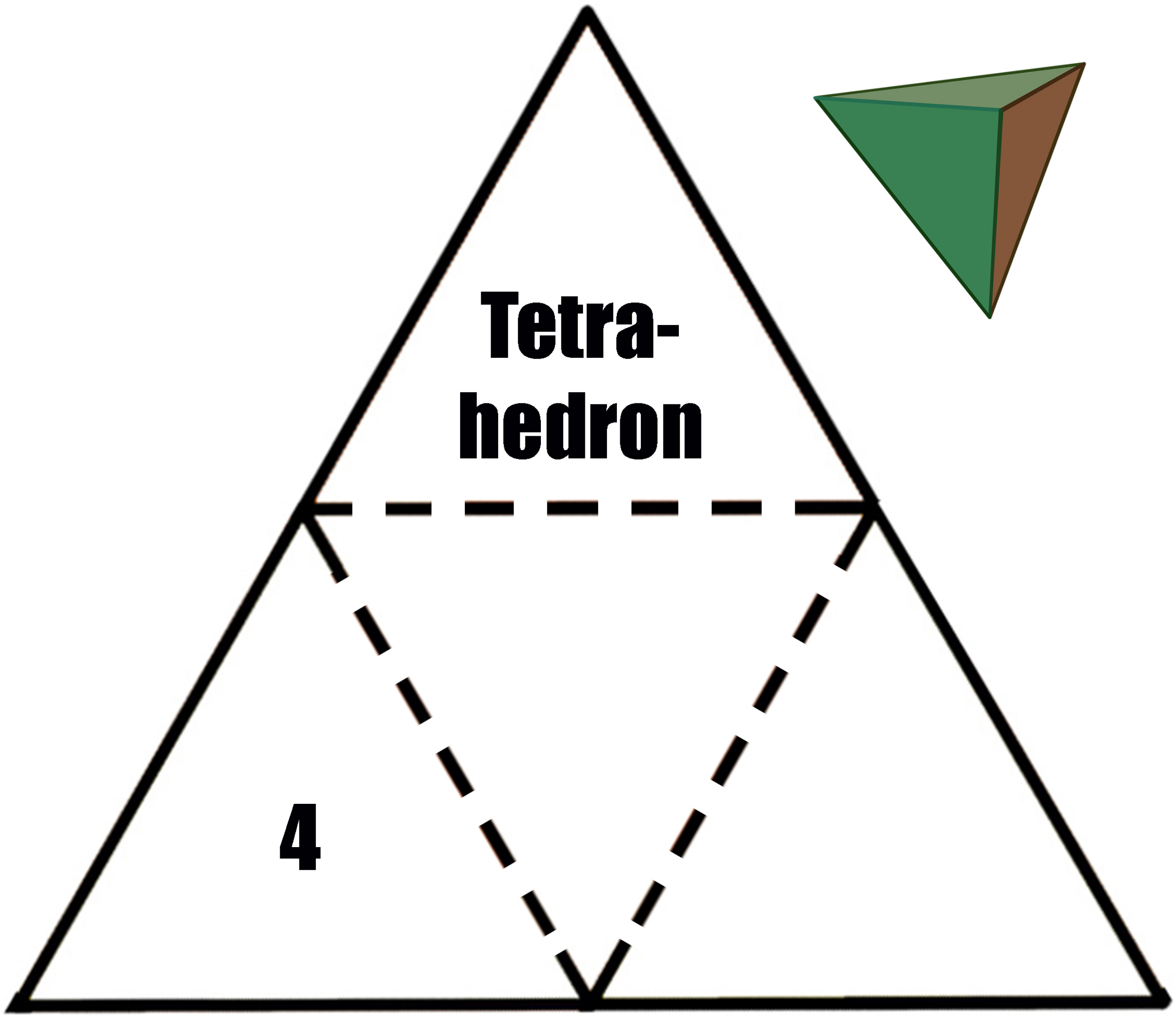
Each diamond is made of four triangles arranged symmetrically. Distances on the EarthStar Globe are easy to measure.
A : 1400 miles
B : 2200 miles
C : 2600 miles

The Earth itself seems to follow the same geometric patterns as the EarthStar Globe! Significant geologic features occur at nearly all of the 62 EarthStar points.

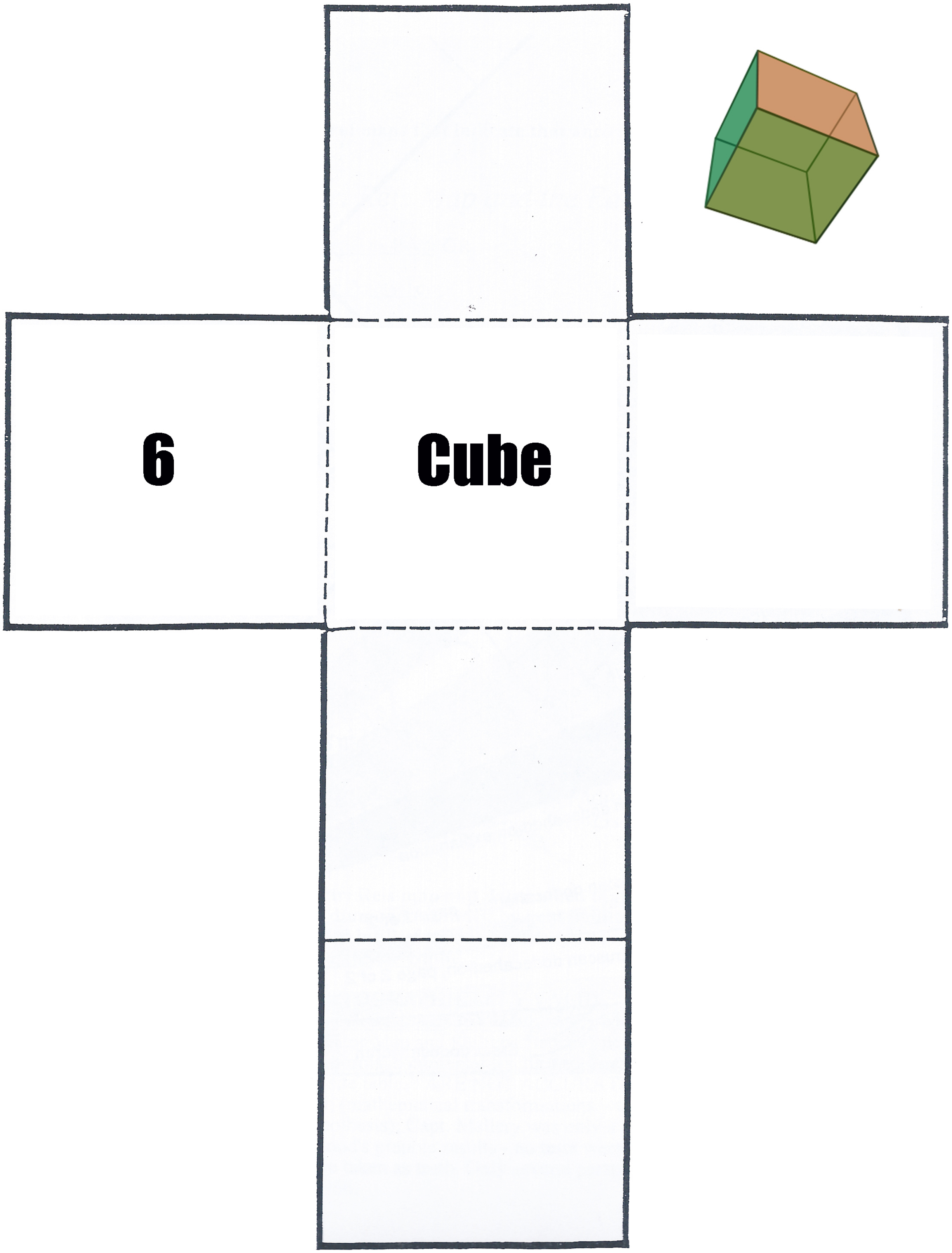
The geometric pattern of the Earth was known to Plato, who wrote that "the earth viewed from above, resembles a ball sewn together from twelve pieces of skin" (the dodecahedron).

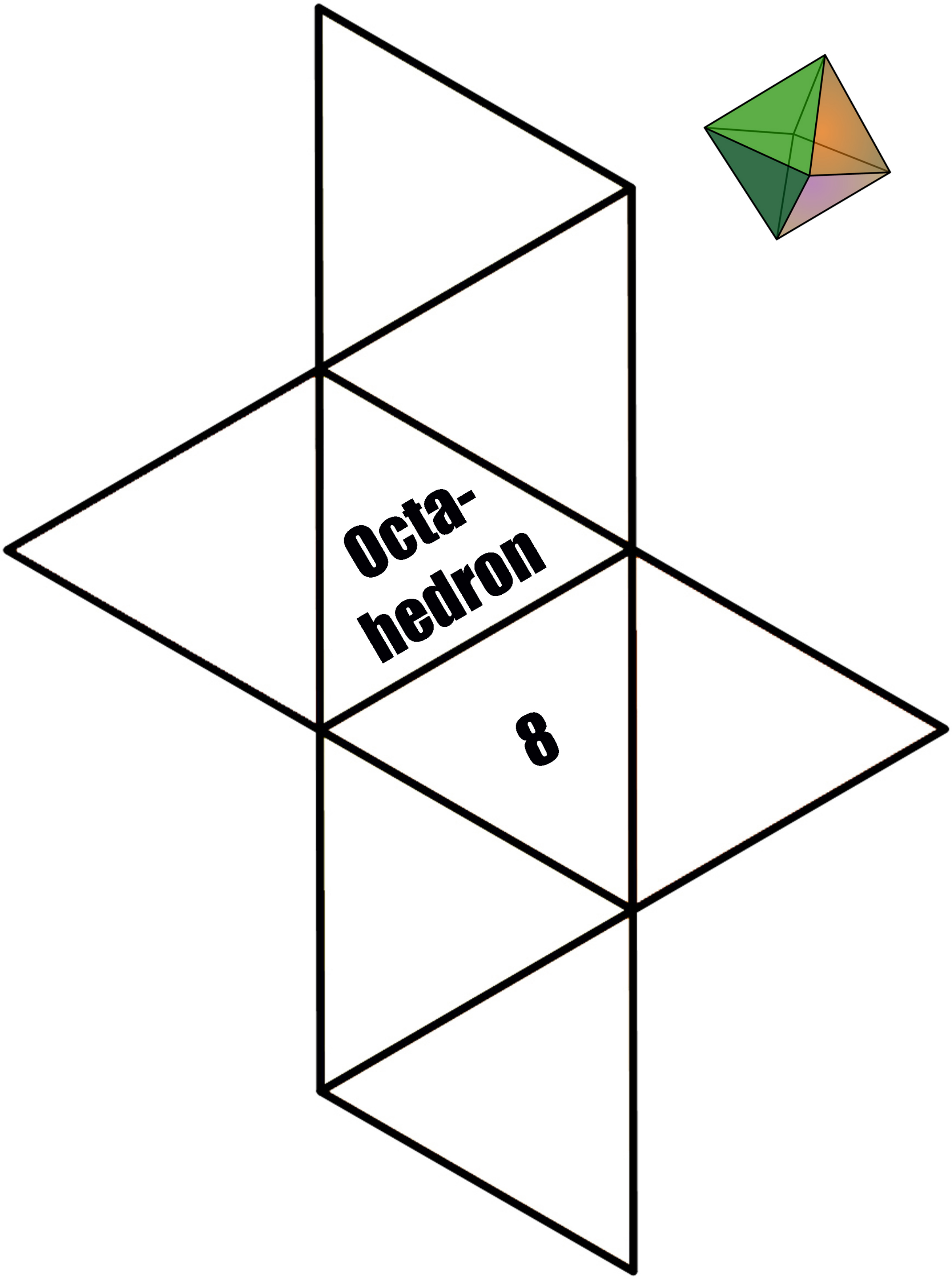
Part 4

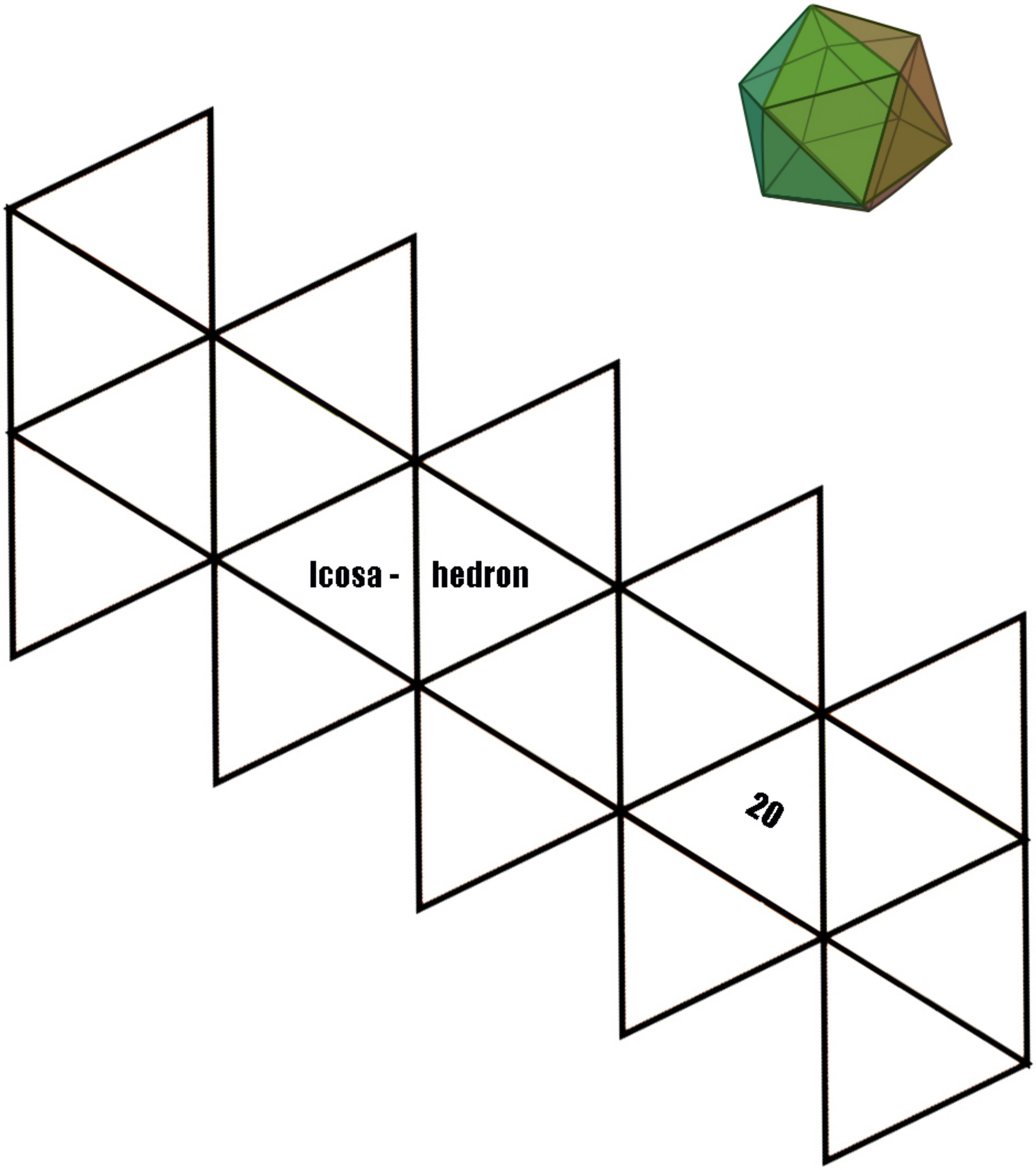
10 Patterns to Assemble

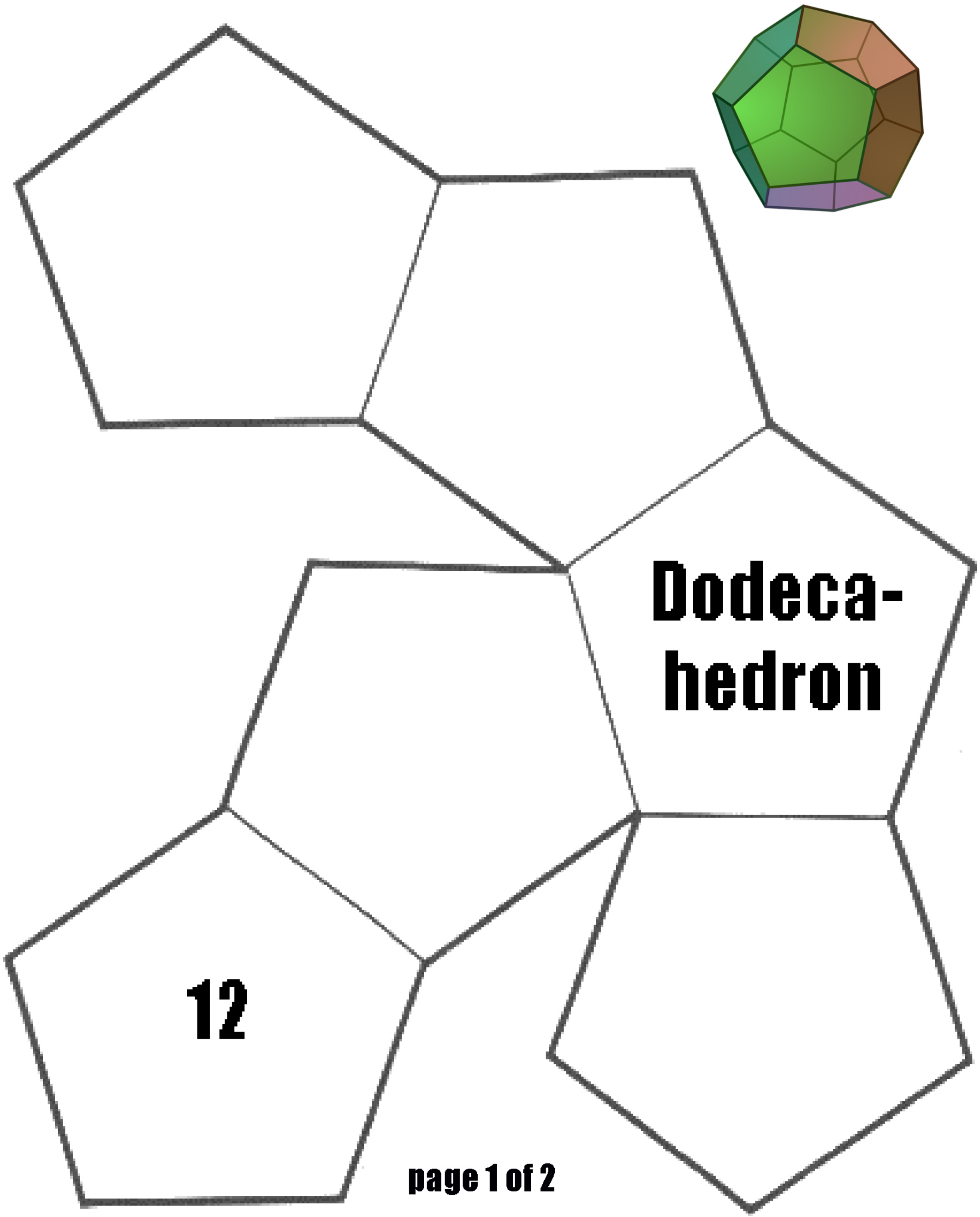


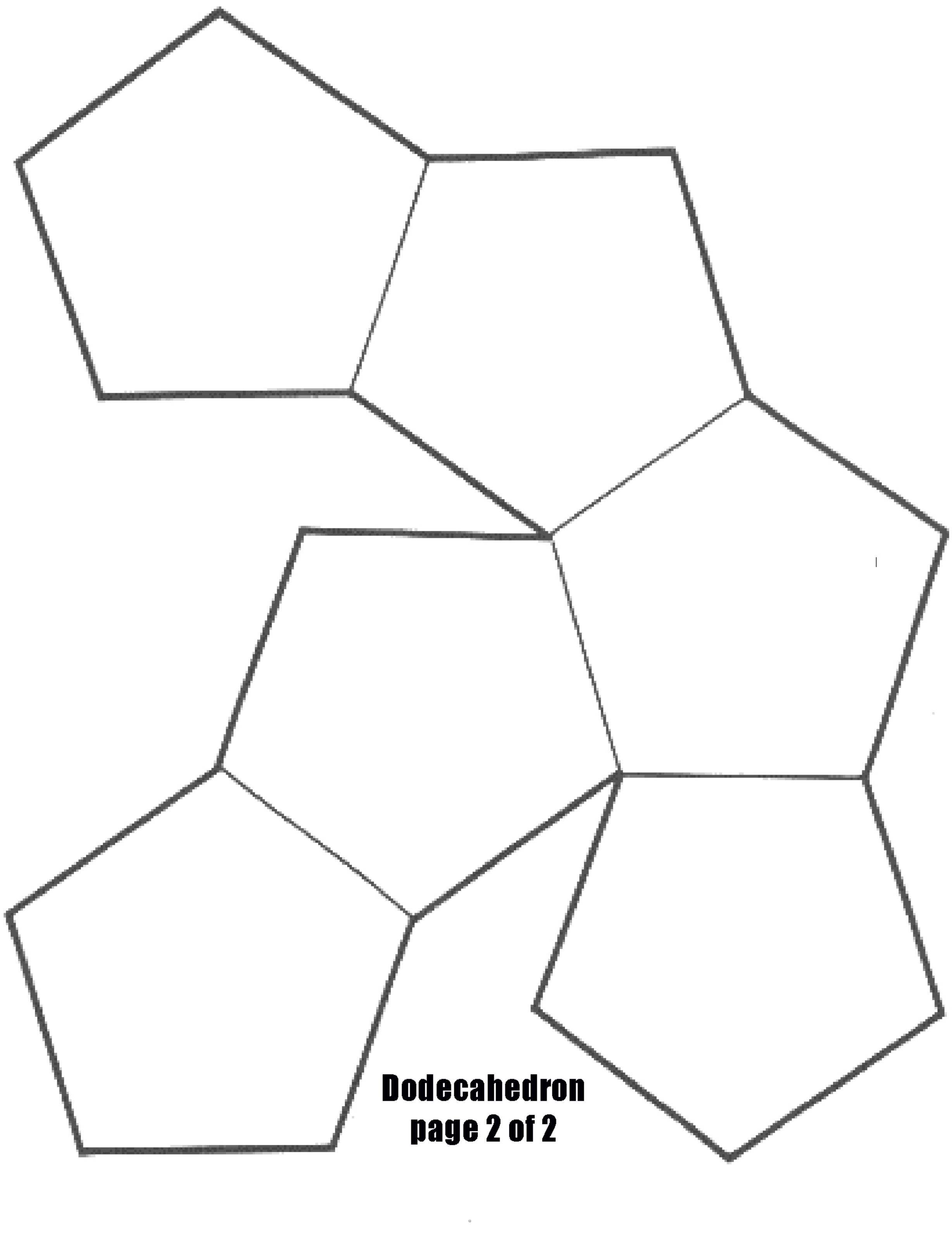
Begin by cutting out the shape. Then fold the interior lines. Tape the edges together. You can assemble it with the words outside, or inside.


6
Cube

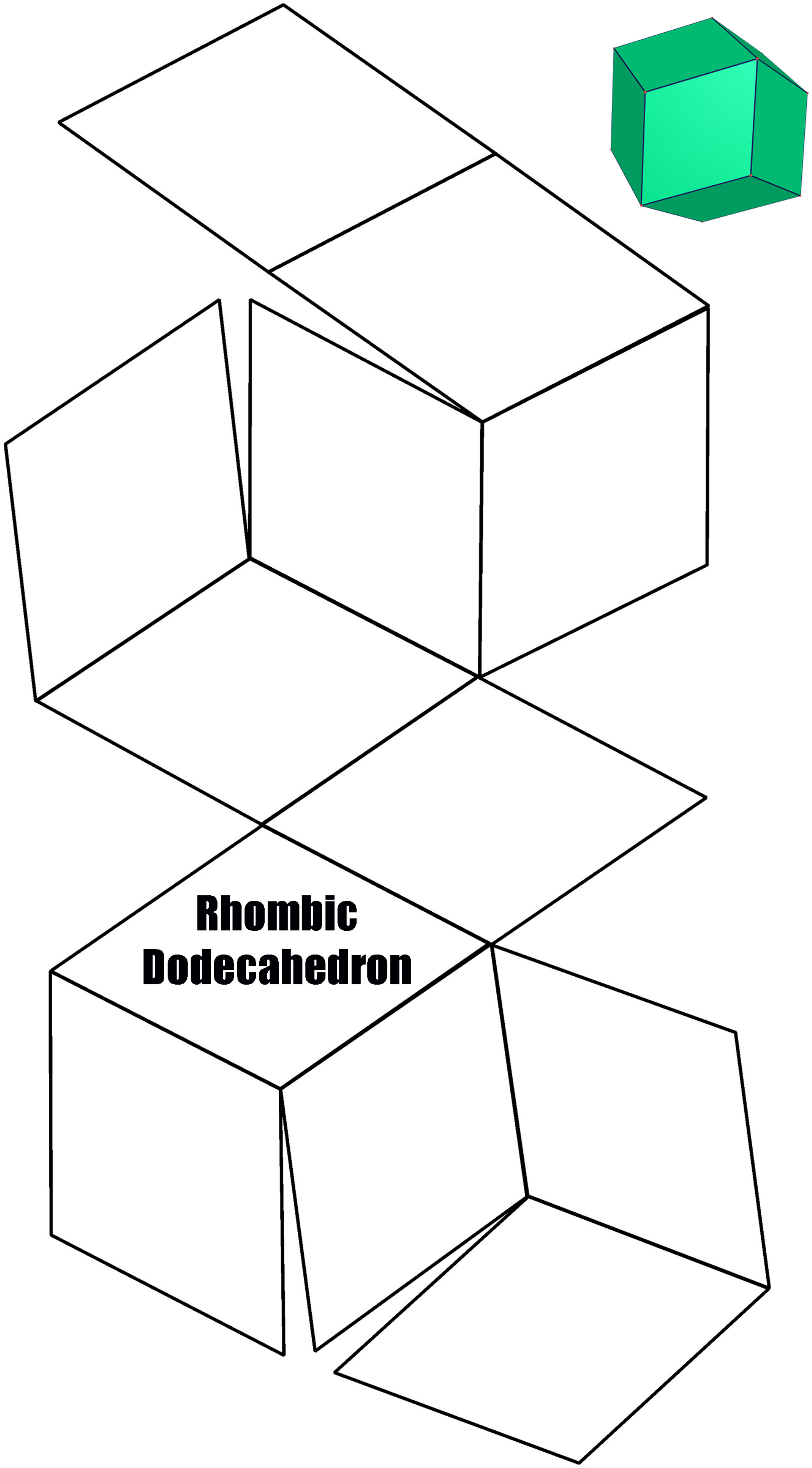

Octa-
hedron
8


Icosa - hedron
20

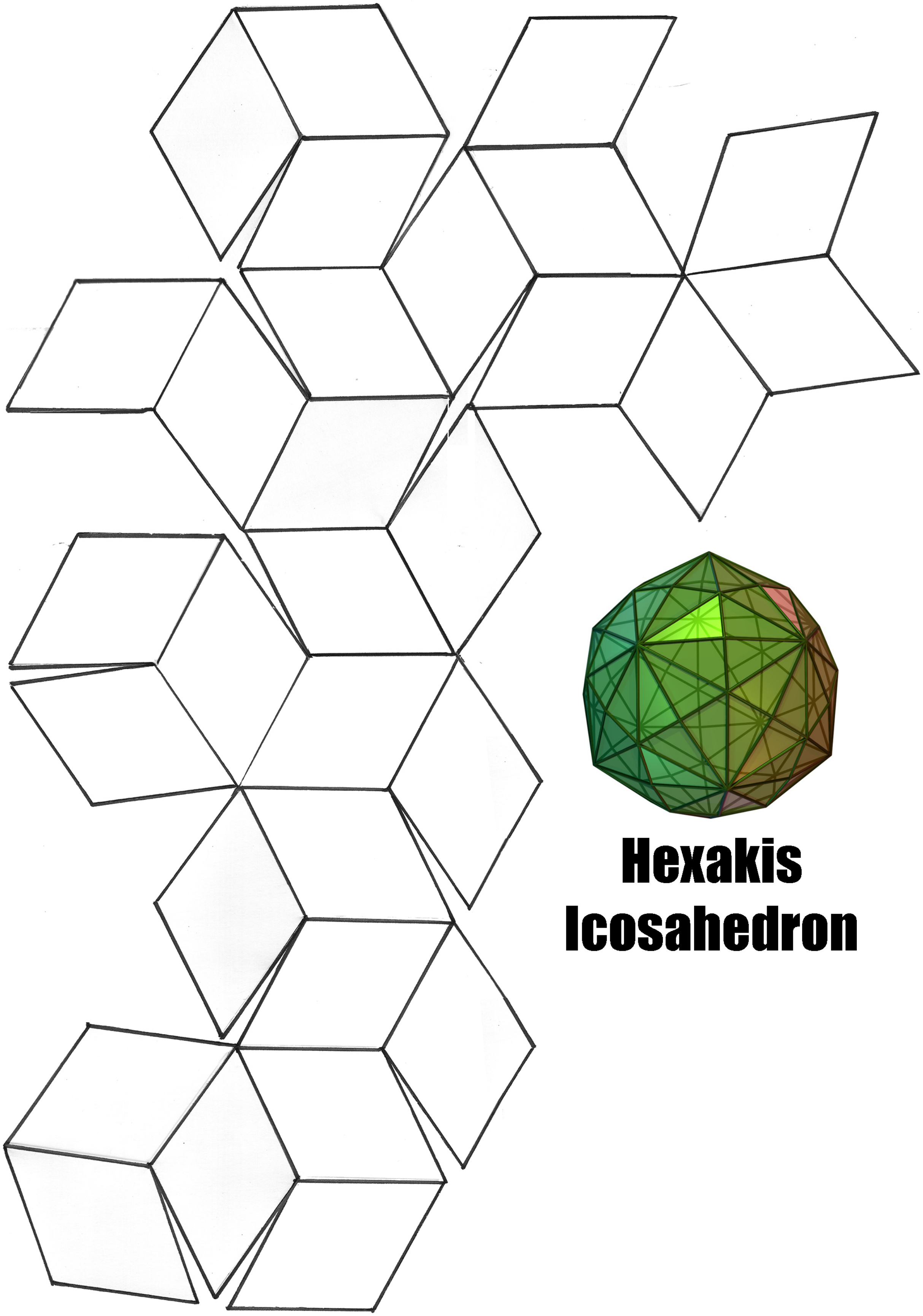

Dodeca-
hedron
12



Dodecahedron
page 2 of 2



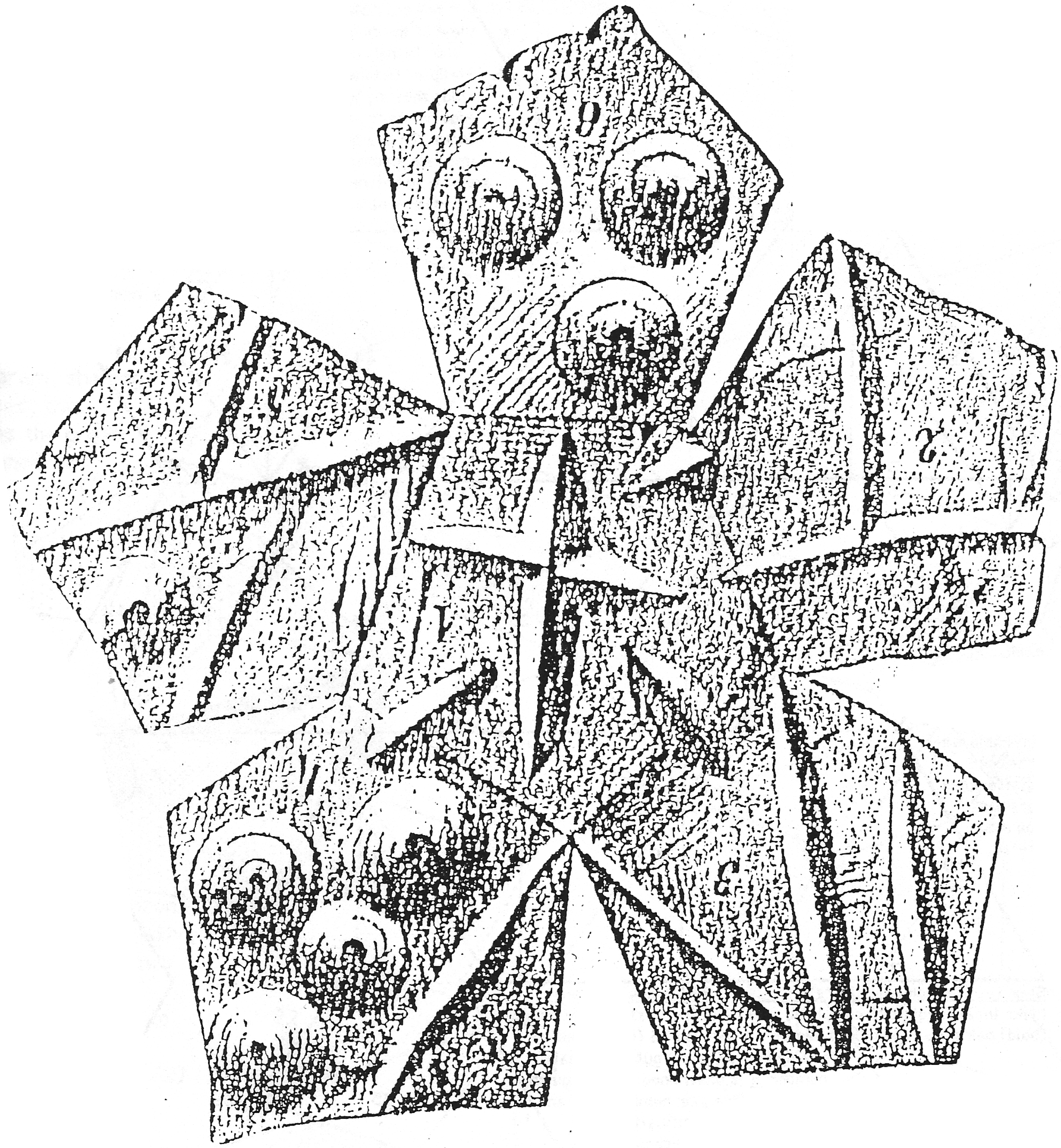
Rhombic dodecahedron
This shape, with 12 diamond-shaped sides, is called a rhombic dodecahedron.

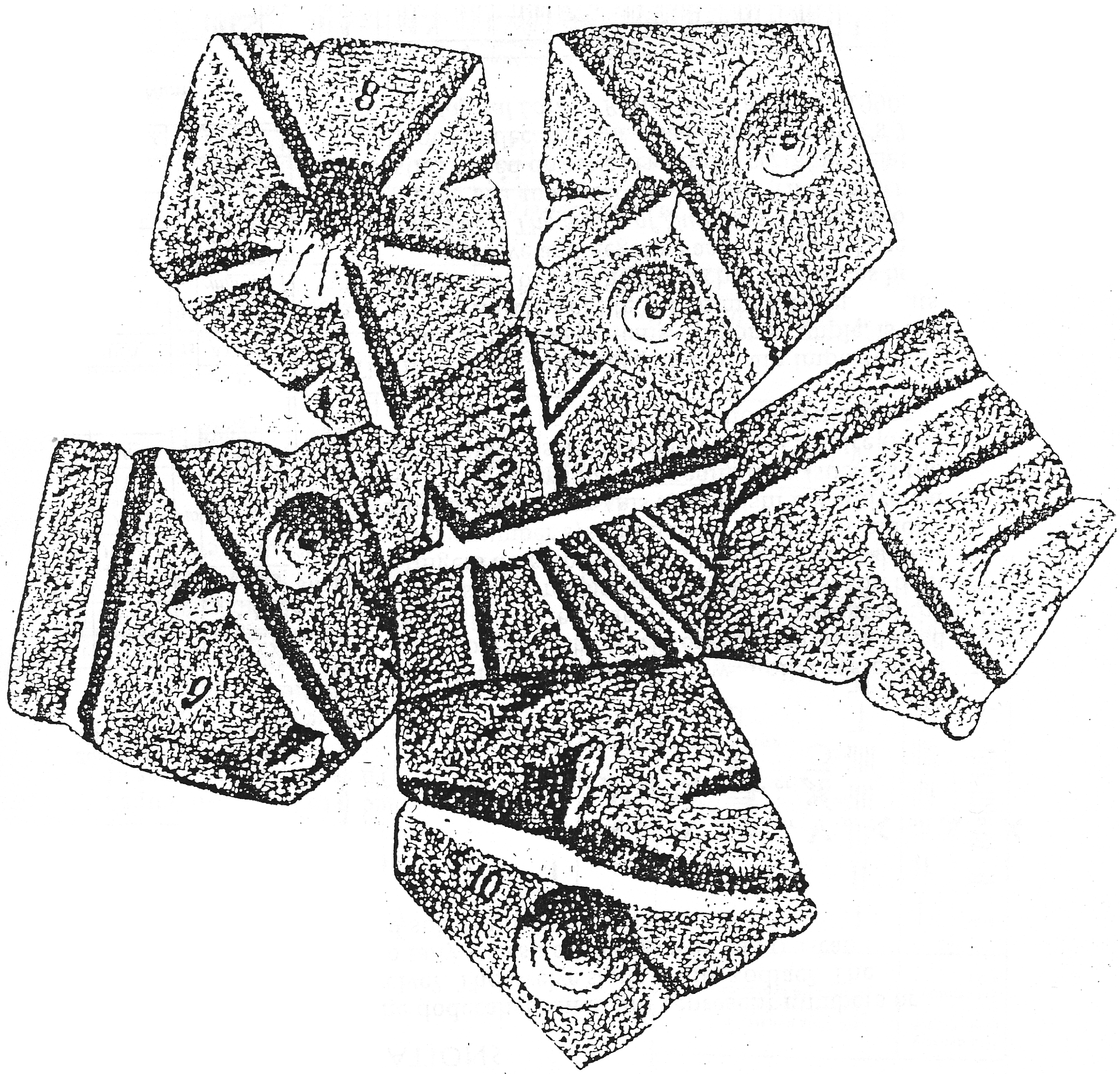


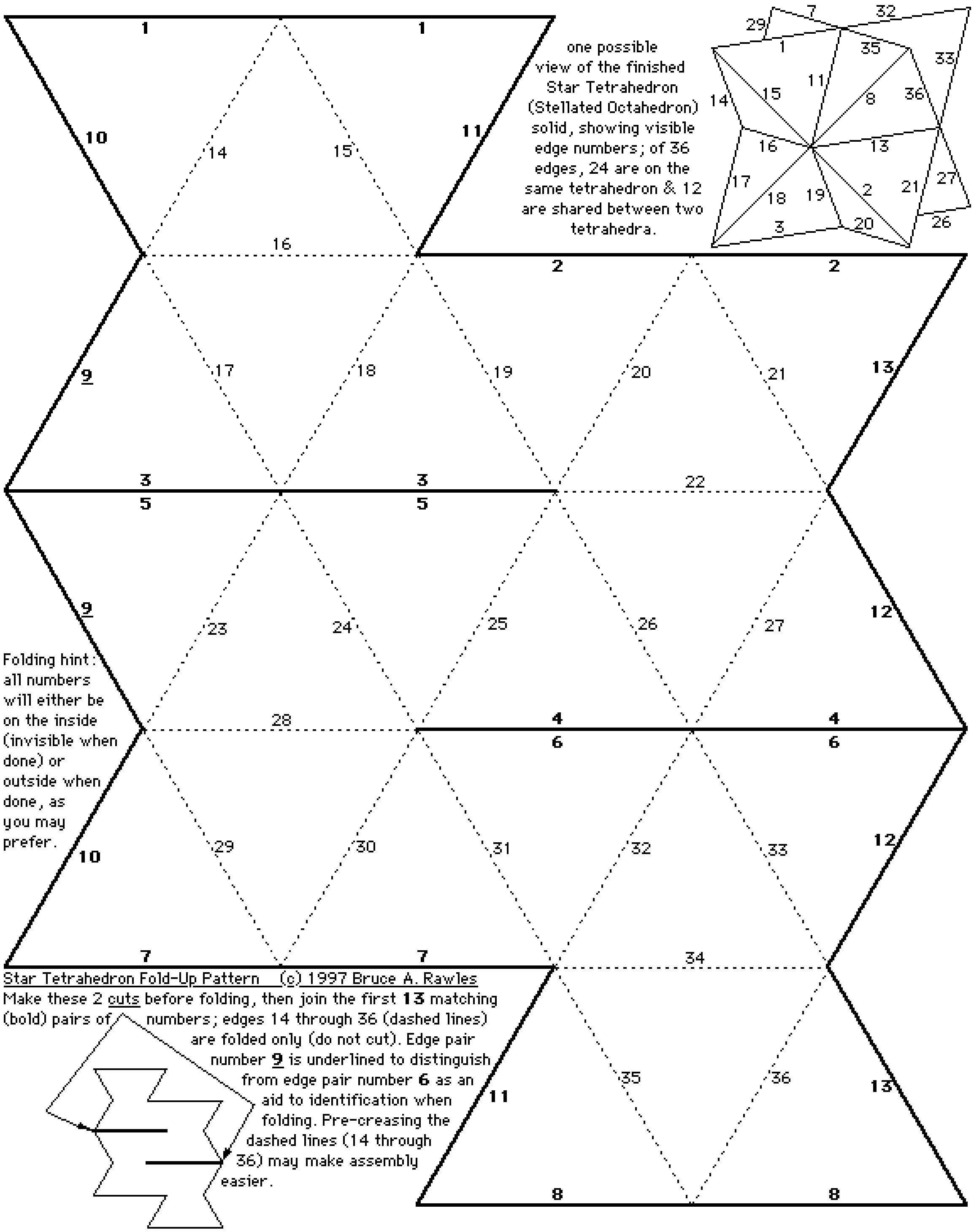
Hexakis Icosahedron

Etruscan Dodecahedron

This ceramic dodecahedron dates from Neolithic times. These markings, possibly from the Etruscan civilization, have never been deciphered. Perhaps the shape was used for some kind of game or perhaps for divination.







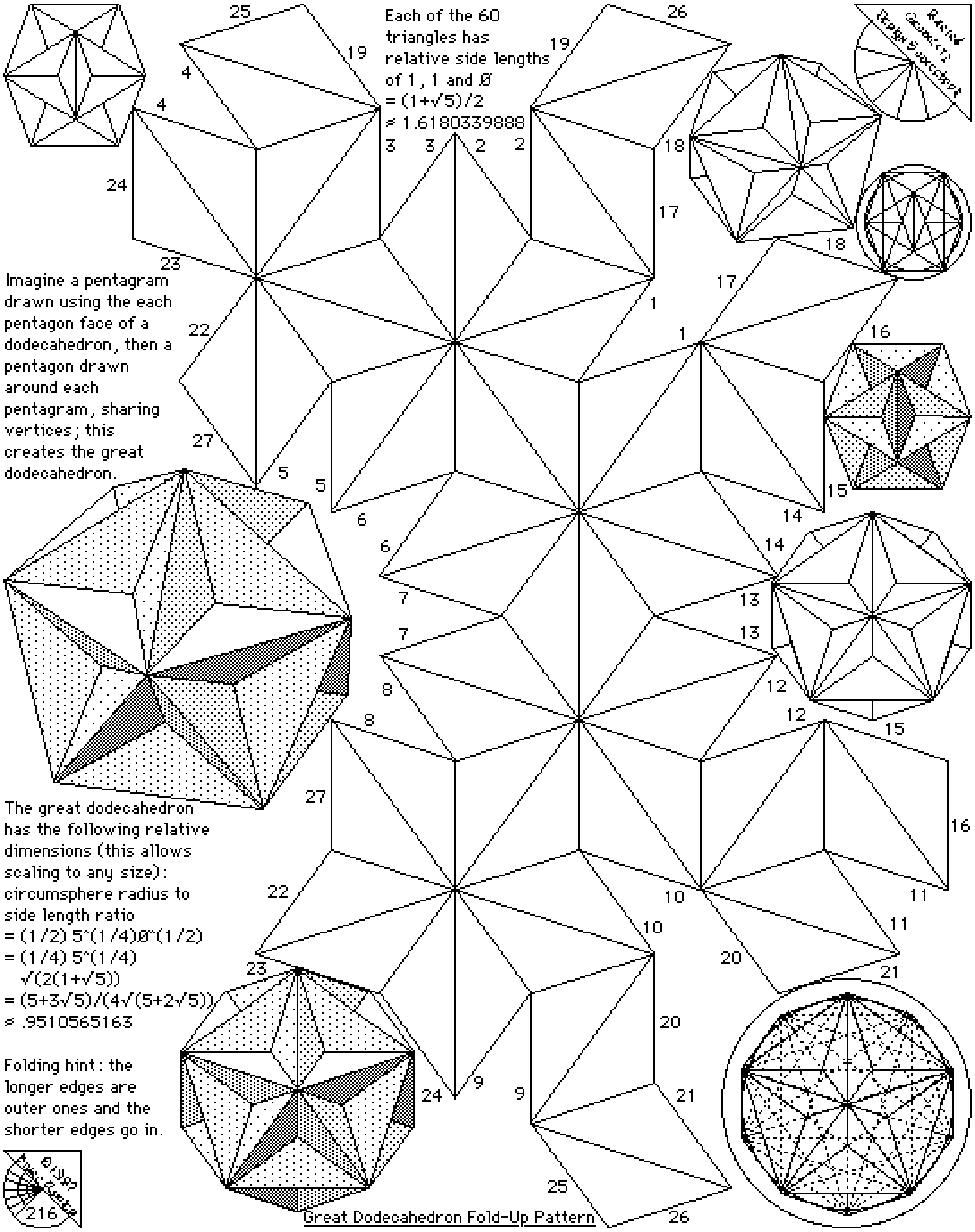
one possible view of the finished Star Tetrahedron (Stellated Octahedron) solid, showing visible edge numbers; of 36 edges, 24 are on the same tetrahedron & 12 are shared between two tetrahedra.

Folding hint: all numbers will either be on the inside (invisible when done) or outside when done, as you may prefer.

Star Tetrahedron Fold-Up Pattern (c) 1997 Bruce A. Rawles

Make these 2 cuts before folding, then join the first **13** matching (bold) pairs of numbers; edges 14 through 36 (dashed lines) are folded only (do not cut). Edge pair number **9** is underlined to distinguish from edge pair number **6** as an aid to identification when folding. Pre-creasing the dashed lines (14 through 36) may make assembly easier.

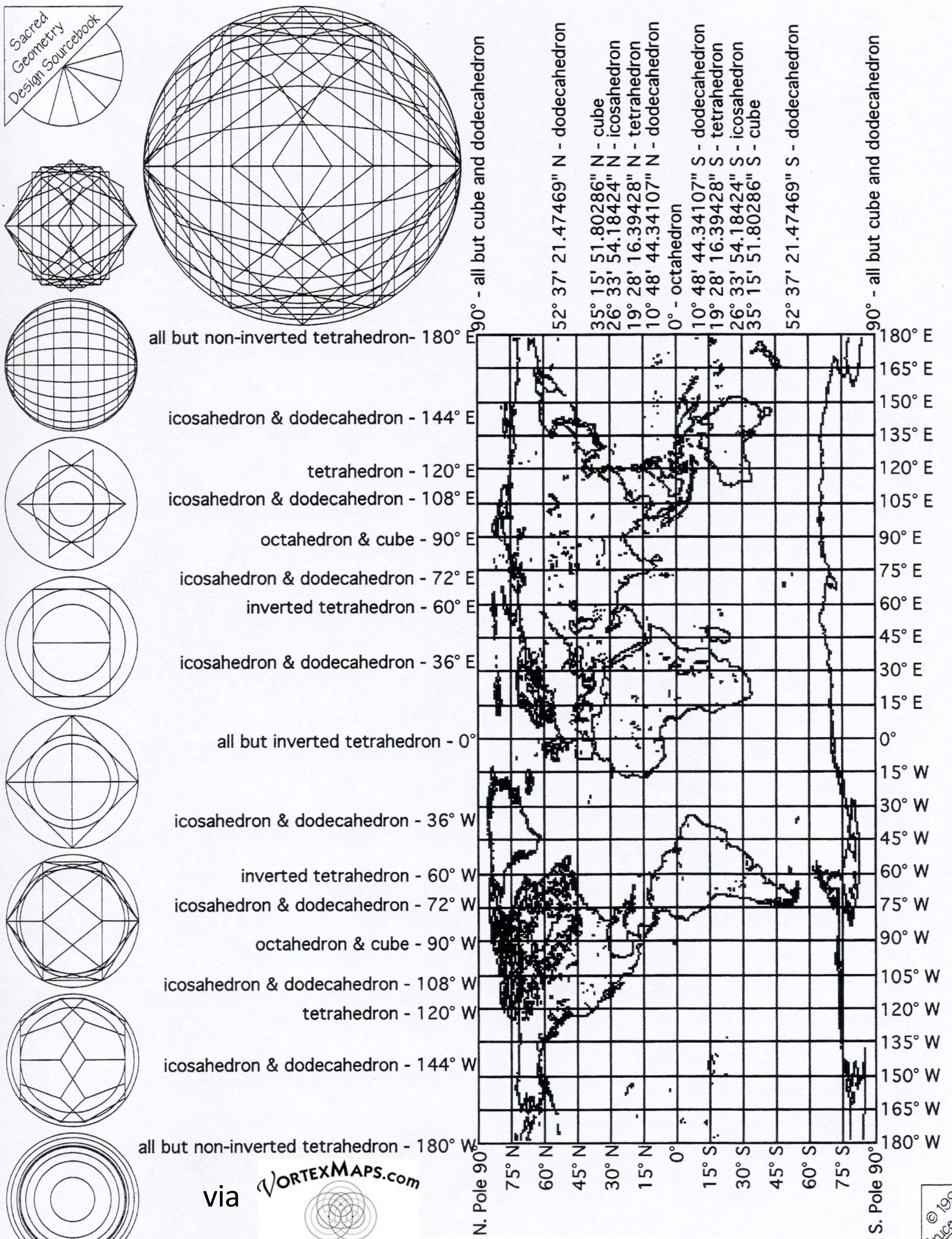
Star Tetrahedron pattern courtesy Bruce Rawles, GeometryCode.com



Great Dodecahedron from GeometryCode.com

Find much more information about sacred geometry and the EarthStar globe at:

VortexMaps.com



World Map with Superimposed Platonic Solid Vertex Latitudes and Longitudes