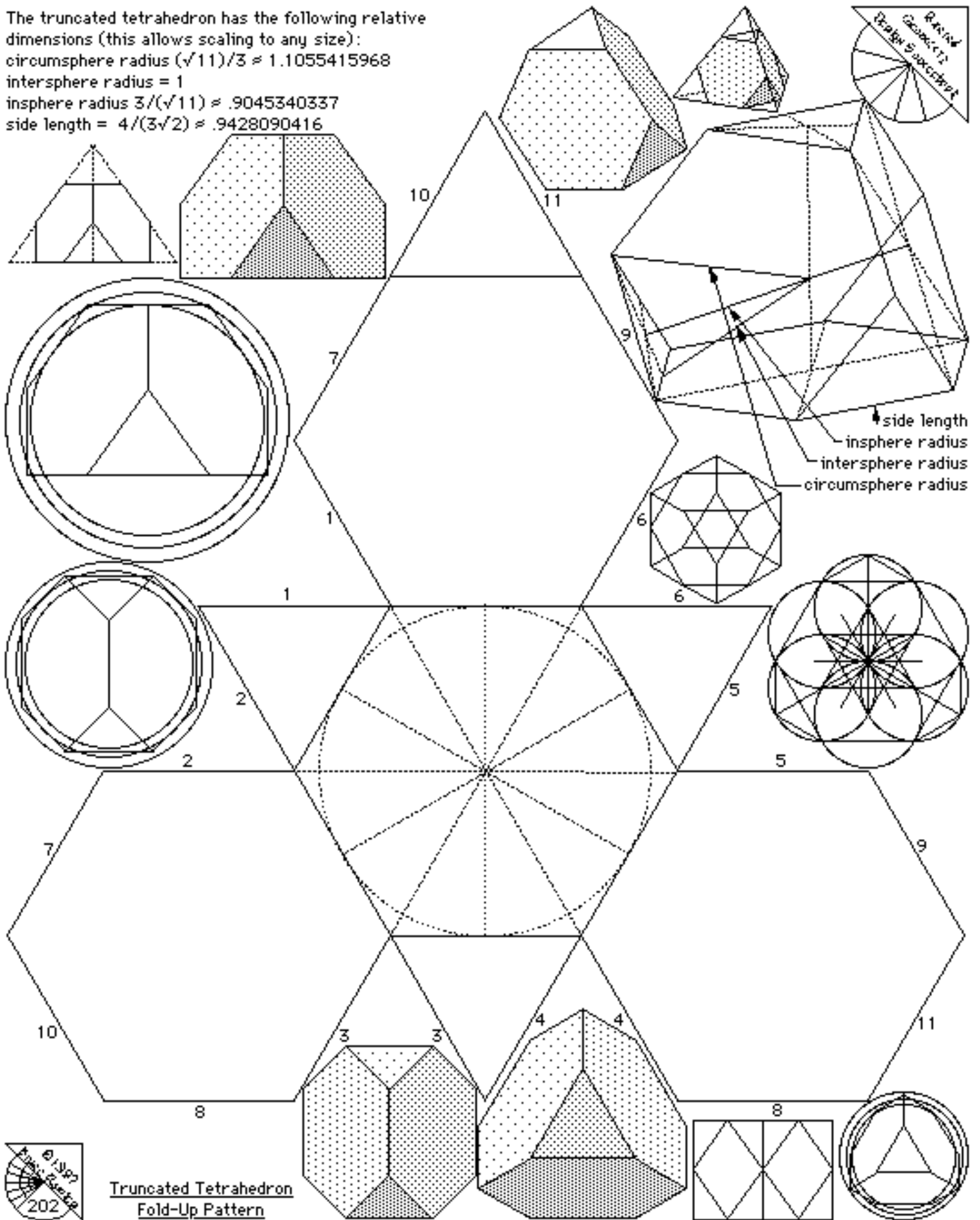
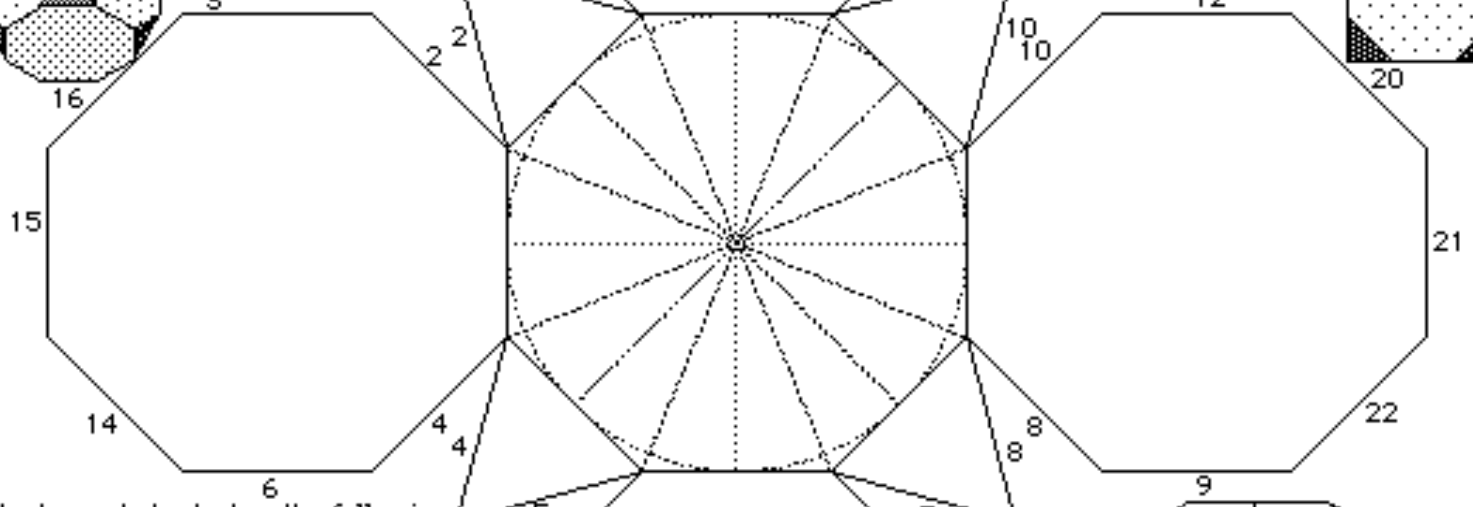
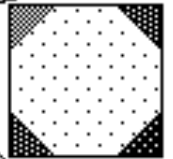
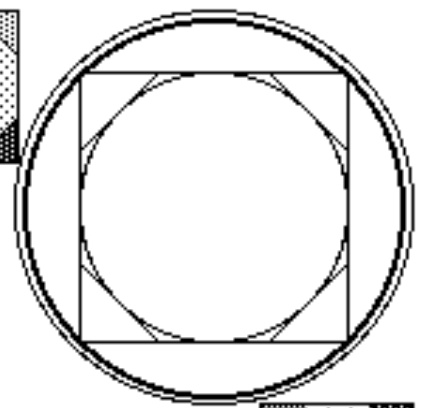
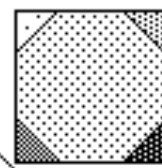
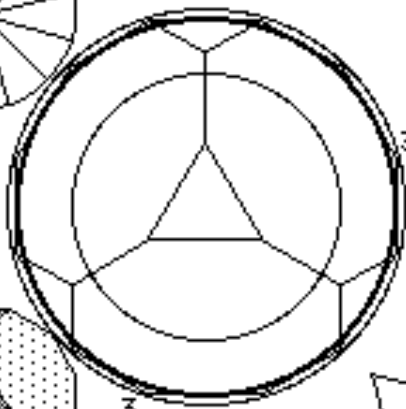
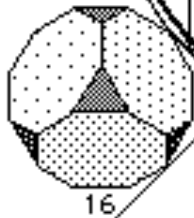


The truncated tetrahedron has the following relative dimensions (this allows scaling to any size):
 circumsphere radius $(\sqrt{11})/3 \approx 1.1055415968$
 intersphere radius = 1
 insphere radius $3/(\sqrt{11}) \approx .9045340337$
 side length = $4/(3\sqrt{2}) \approx .9428090416$

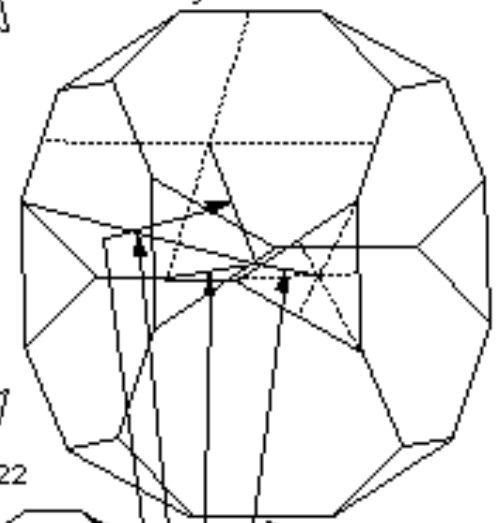


Truncated Tetrahedron
Fold-Up Pattern

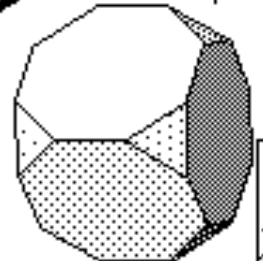
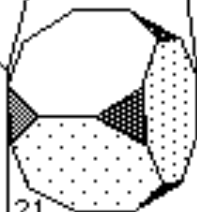
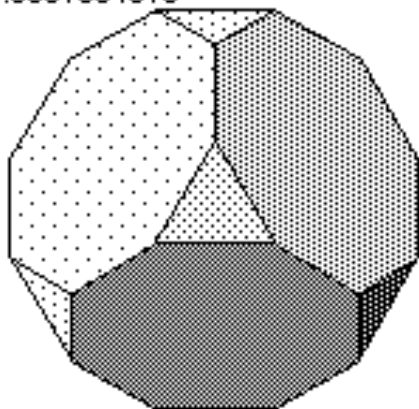


The truncated cube has the following relative dimensions (this allows scaling to any size):

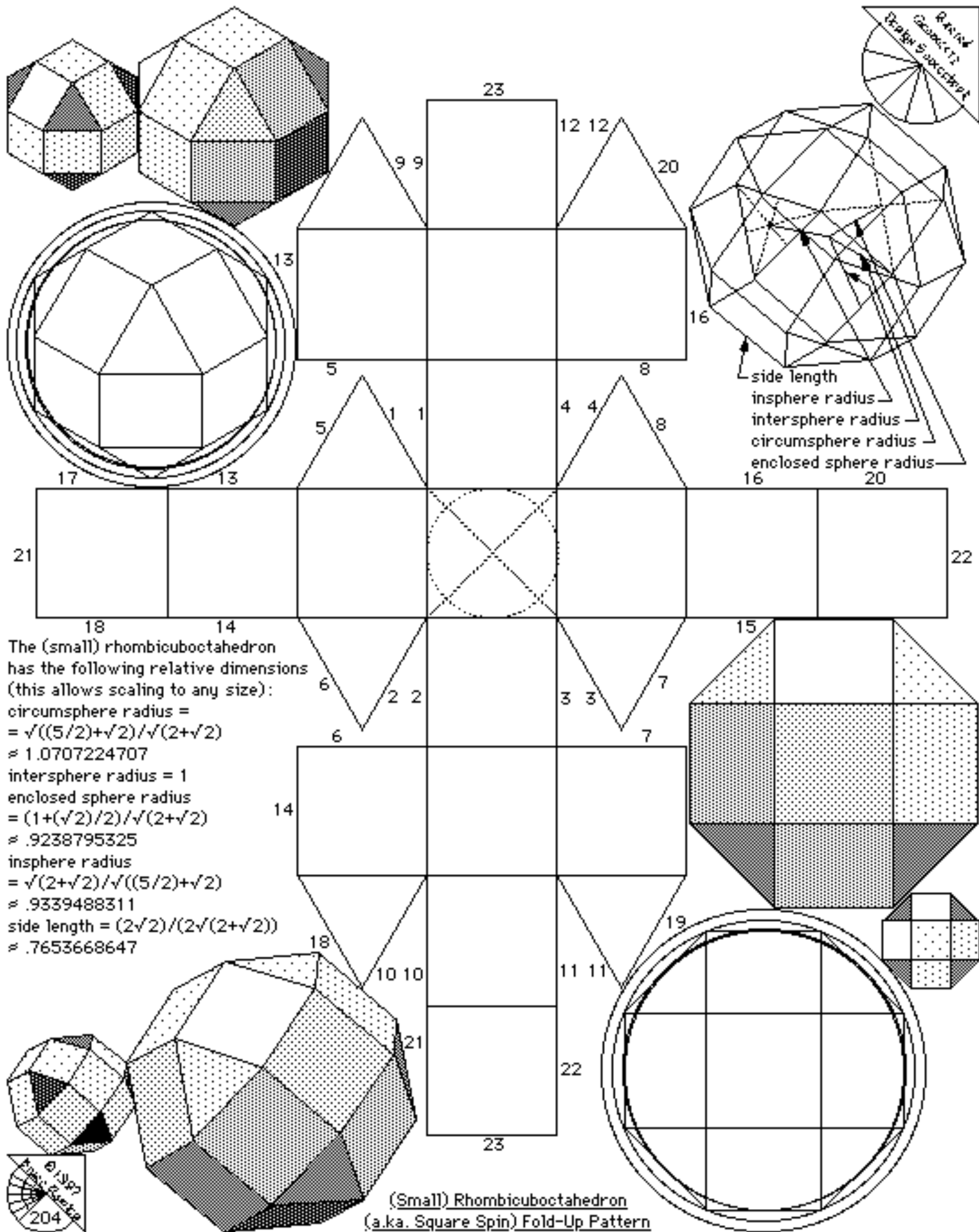
- circumsphere radius = $(\sqrt{7+4\sqrt{2}}) - \sqrt{((7/2)+2\sqrt{2})}$
 ≈ 1.0420107666
- intersphere radius = 1
- enclosed sphere radius = $\sqrt{2}/2$
 $\approx .7071067812$
- insphere radius = $=2(5+2\sqrt{2})\sqrt{7+4\sqrt{2}}/(17(2+\sqrt{2}))$
 $\approx .9596829823$
- side length = $2-\sqrt{2}$
 $\approx .5857864376$



- side length
- insphere radius
- intersphere radius
- circumsphere radius
- enclosed sphere radius



Truncated Cube Fold-Up Pattern



The (small) rhombicuboctahedron has the following relative dimensions (this allows scaling to any size):

circumsphere radius = $\sqrt{((5/2)+\sqrt{2})/\sqrt{(2+\sqrt{2})}}$
 ≈ 1.0707224707

intersphere radius = 1
 enclosed sphere radius = $(1+(\sqrt{2})/2)/\sqrt{(2+\sqrt{2})}$
 $\approx .9238795325$

insphere radius = $\sqrt{(2+\sqrt{2})/\sqrt{((5/2)+\sqrt{2})}}$
 $\approx .9339488311$

side length = $(2\sqrt{2})/(2\sqrt{(2+\sqrt{2})})$
 $\approx .7653668647$

(Small) Rhombicuboctahedron
 (a.k.a. Square Spin) Fold-Up Pattern



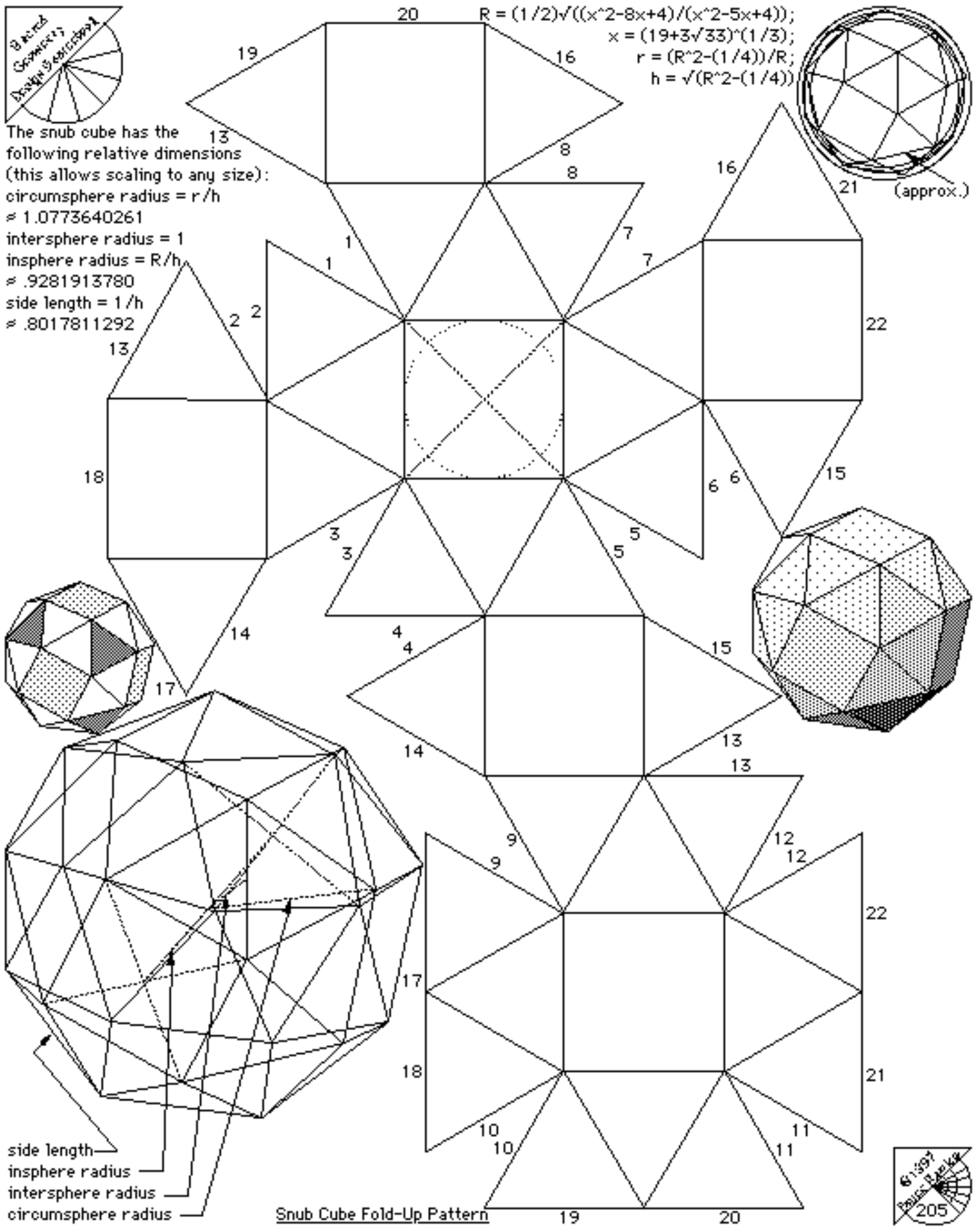
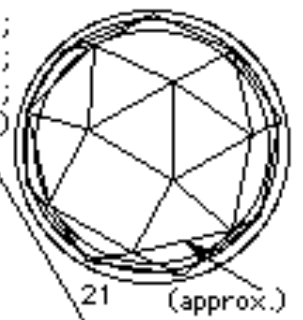
The snub cube has the following relative dimensions (this allows scaling to any size):
 circumsphere radius = $r/h \approx 1.0773640261$
 intersphere radius = 1
 insphere radius = $R/h \approx .9281913780$
 side length = $1/h \approx .8017811292$

$$R = (1/2)\sqrt{((x^2-8x+4)/(x^2-5x+4))};$$

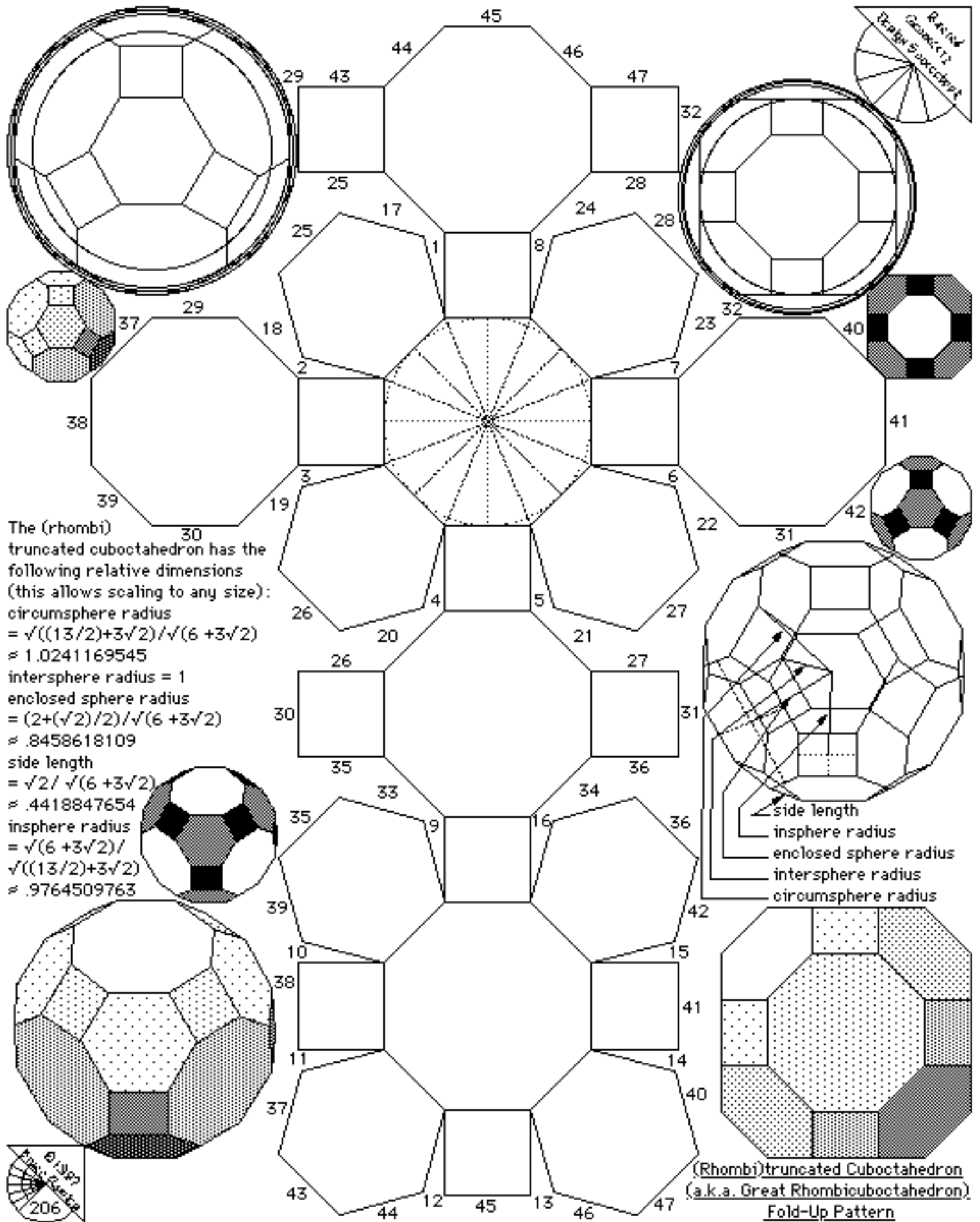
$$x = (19+3\sqrt{33})^{(1/3)};$$

$$r = (R^2-(1/4))/R;$$

$$h = \sqrt{(R^2-(1/4))}$$



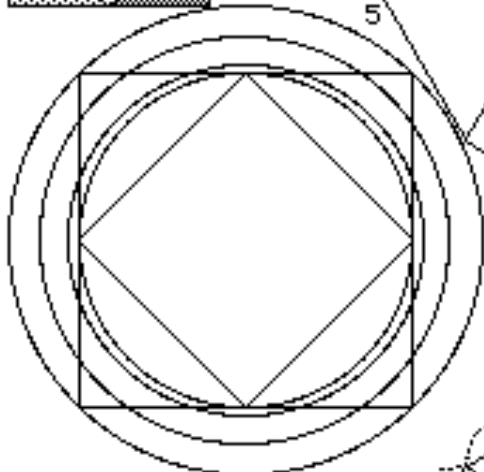
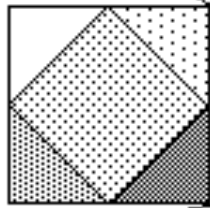
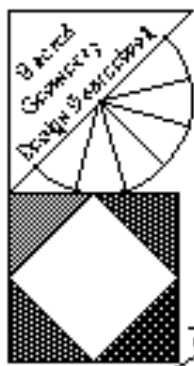
Snub Cube Fold-Up Pattern



The (rhombi) truncated cuboctahedron has the following relative dimensions (this allows scaling to any size):

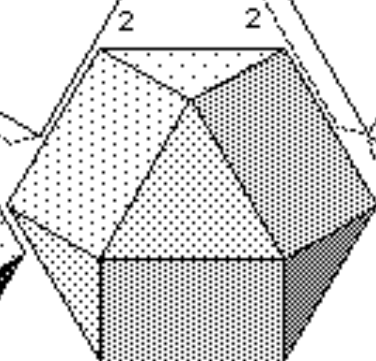
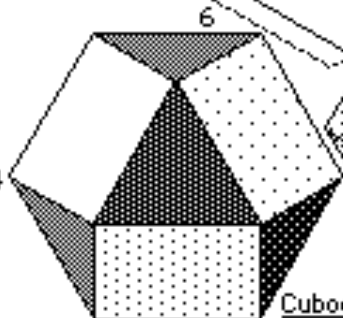
- circumsphere radius = $\sqrt{((13/2)+3\sqrt{2})/\sqrt{6+3\sqrt{2}}}$
 ≈ 1.0241169545
- intersphere radius = 1
- enclosed sphere radius = $(2+(\sqrt{2})/2)/\sqrt{6+3\sqrt{2}}$
 $\approx .8458618109$
- side length = $\sqrt{2}/\sqrt{6+3\sqrt{2}}$
 $\approx .4418847654$
- insphere radius = $\sqrt{6+3\sqrt{2}}/\sqrt{((13/2)+3\sqrt{2})}$
 $\approx .9764509763$

(Rhombi)truncated Cuboctahedron
 (a.k.a. Great Rhombicuboctahedron)
 Fold-Up Pattern

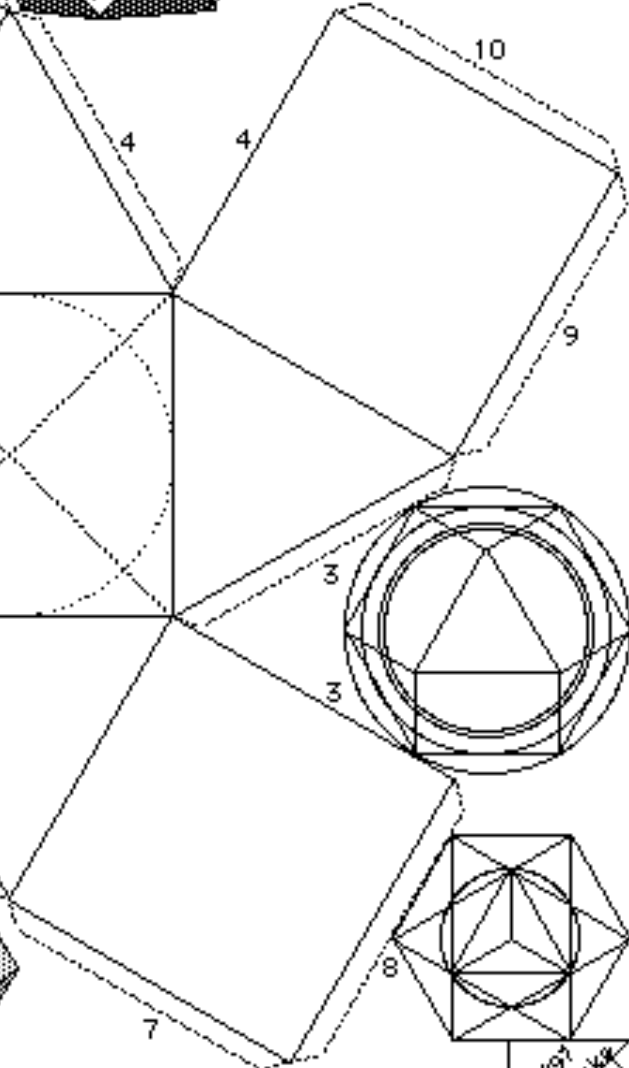
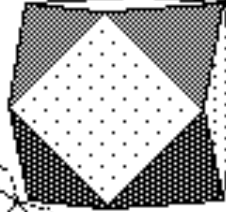
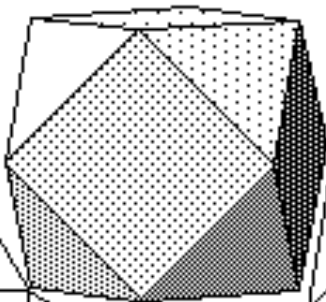


The cuboctahedron has the following relative dimensions (this allows scaling to any size):

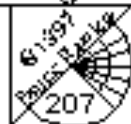
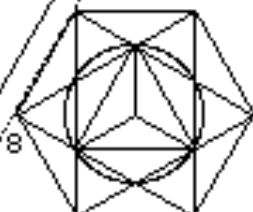
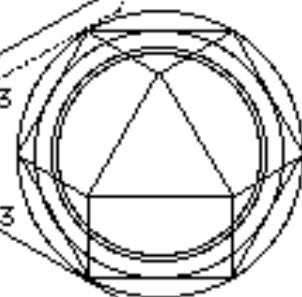
- circumsphere radius = $2/(\sqrt{3})$
 ≈ 1.1547005384
- intersphere radius = 1
- enclosed sphere radius = $\sqrt{2/3}$
 $\approx .8164965809$
- insphere radius = $(\sqrt{3})/2$
 $\approx .8660254038$
- side length = $2/(\sqrt{3})$
 ≈ 1.1547005384

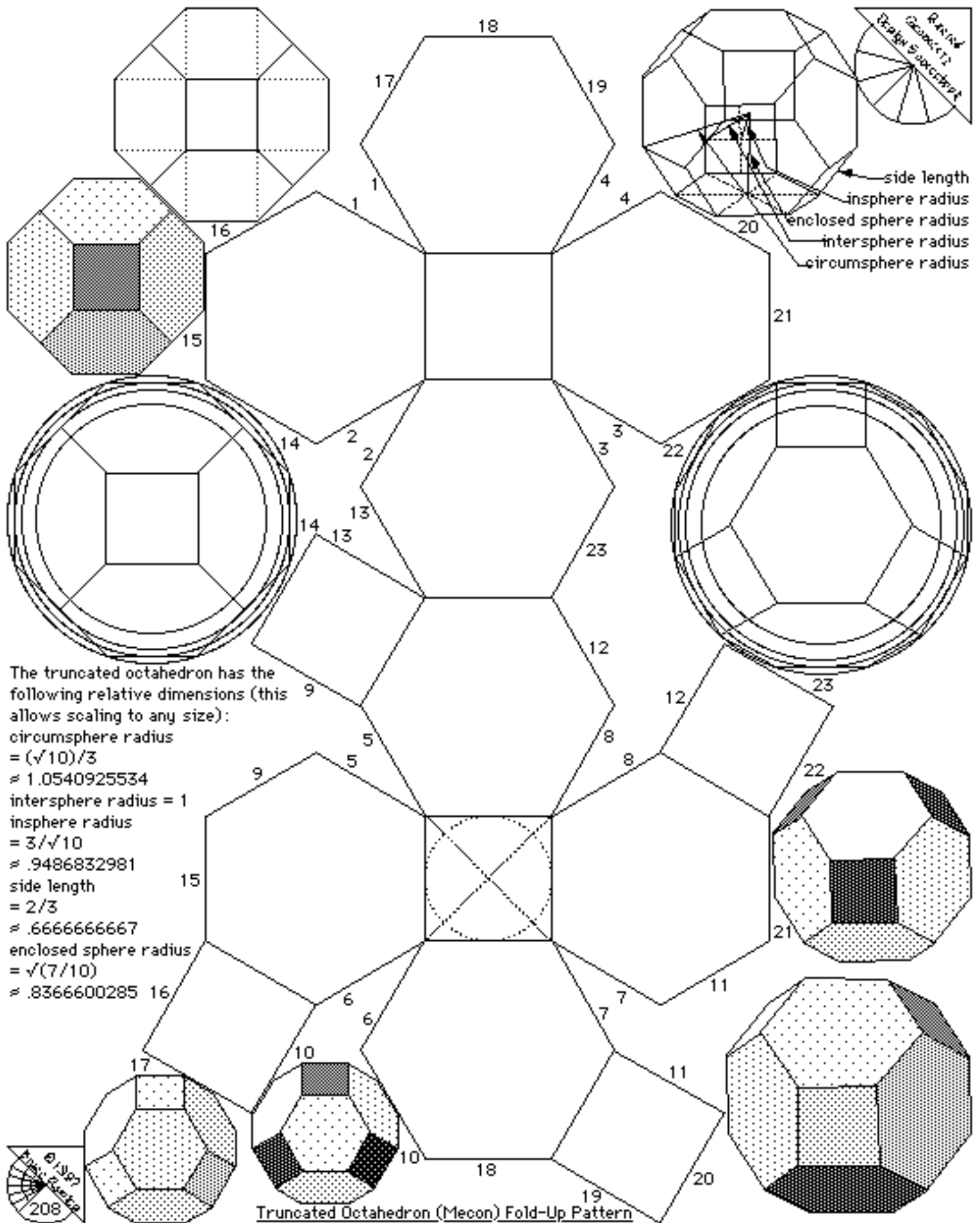


Cuboctahedron (Dymaxion) Fold-Up Pattern



side length
insphere radius
intersphere radius
circumsphere radius
enclosed sphere radius

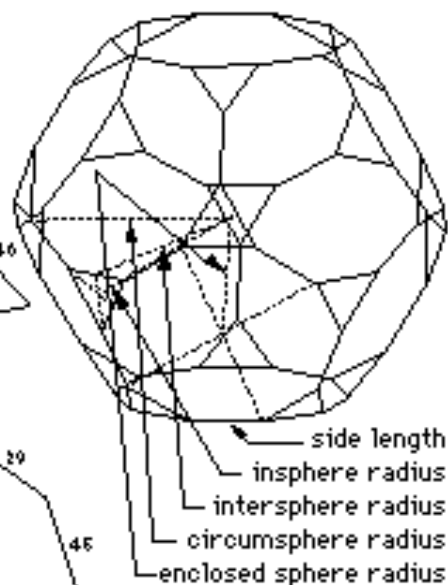
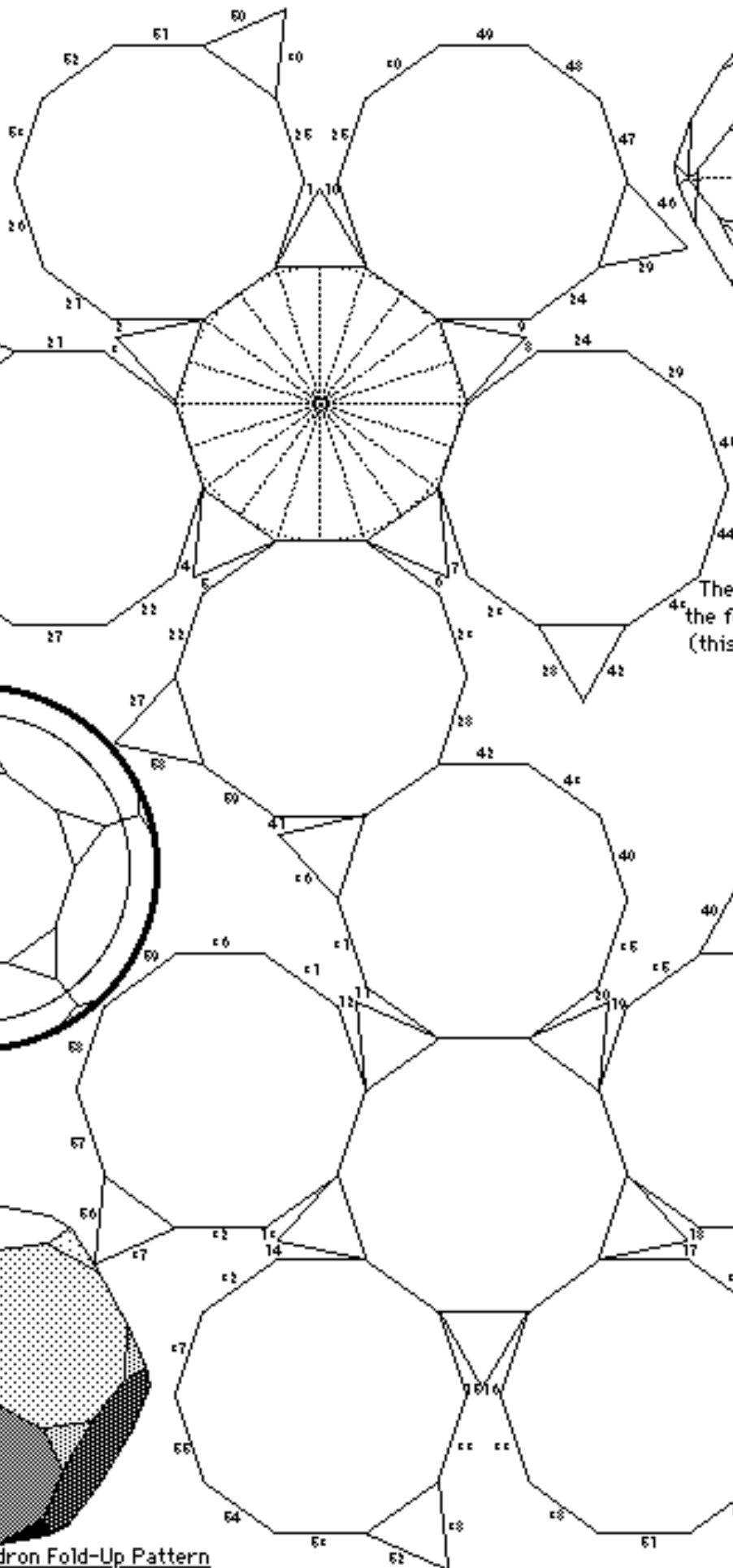
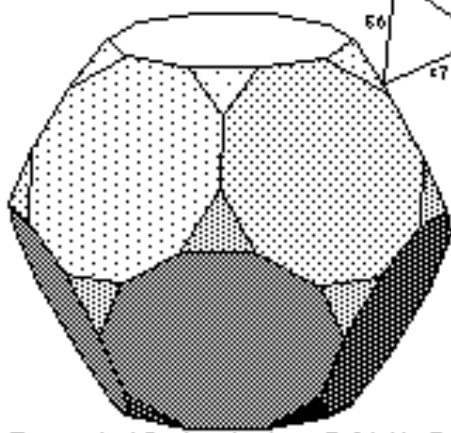
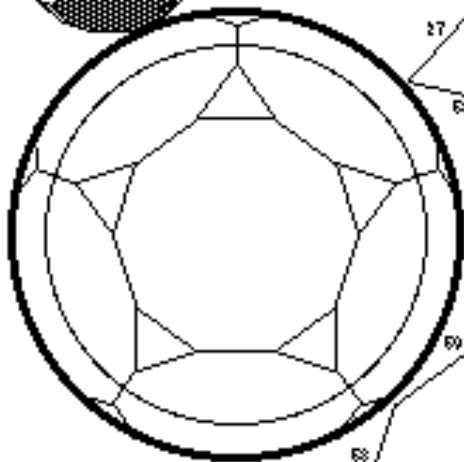
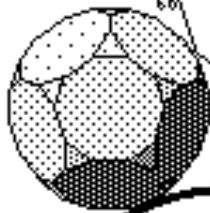
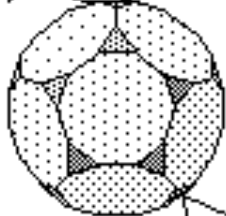




The truncated octahedron has the following relative dimensions (this allows scaling to any size):

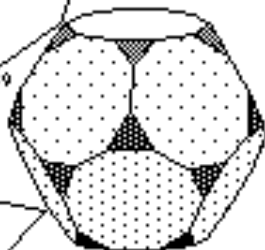
- circumsphere radius = $(\sqrt{10})/3$
- ≈ 1.0540925534
- intersphere radius = 1
- insphere radius = $3/\sqrt{10}$
- $\approx .9486832981$
- side length = $2/3$
- $\approx .6666666667$
- enclosed sphere radius = $\sqrt{(7/10)}$
- $\approx .8366600285$

Truncated Octahedron (Mecon) Fold-Up Pattern



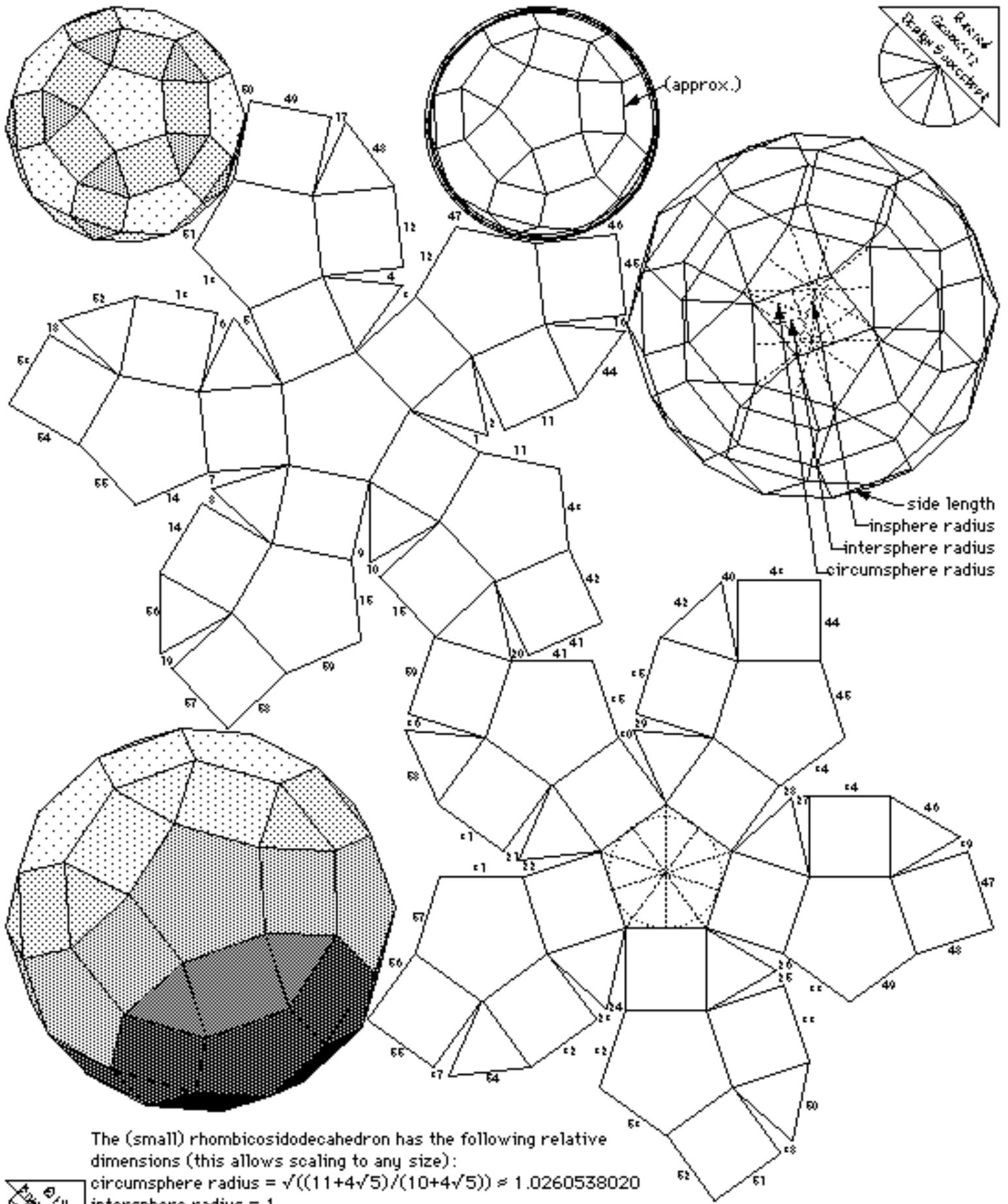
The truncated dodecahedron has the following relative dimensions (this allows scaling to any size):

- circumsphere radius = $\sqrt{((70+2\sqrt{5})/(50+10\sqrt{5}))}$
 ≈ 1.0144848973
- intersphere radius = 1
- insphere radius = $\sqrt{((50+10\sqrt{5})/(70+2\sqrt{5}))}$
 $\approx .9857219193$
- enclosed sphere radius = $(1+\sqrt{5})/\sqrt{(10+2\sqrt{5})}$
 $\approx .8506508084$
- side length = $(3(\sqrt{5})/5) - 1$
 $\approx .3416407865$



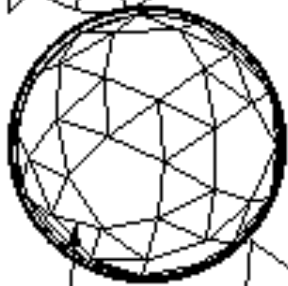
Truncated Dodecahedron Fold-Up Pattern

from <http://www.intent.com/sg/archimedean.html>



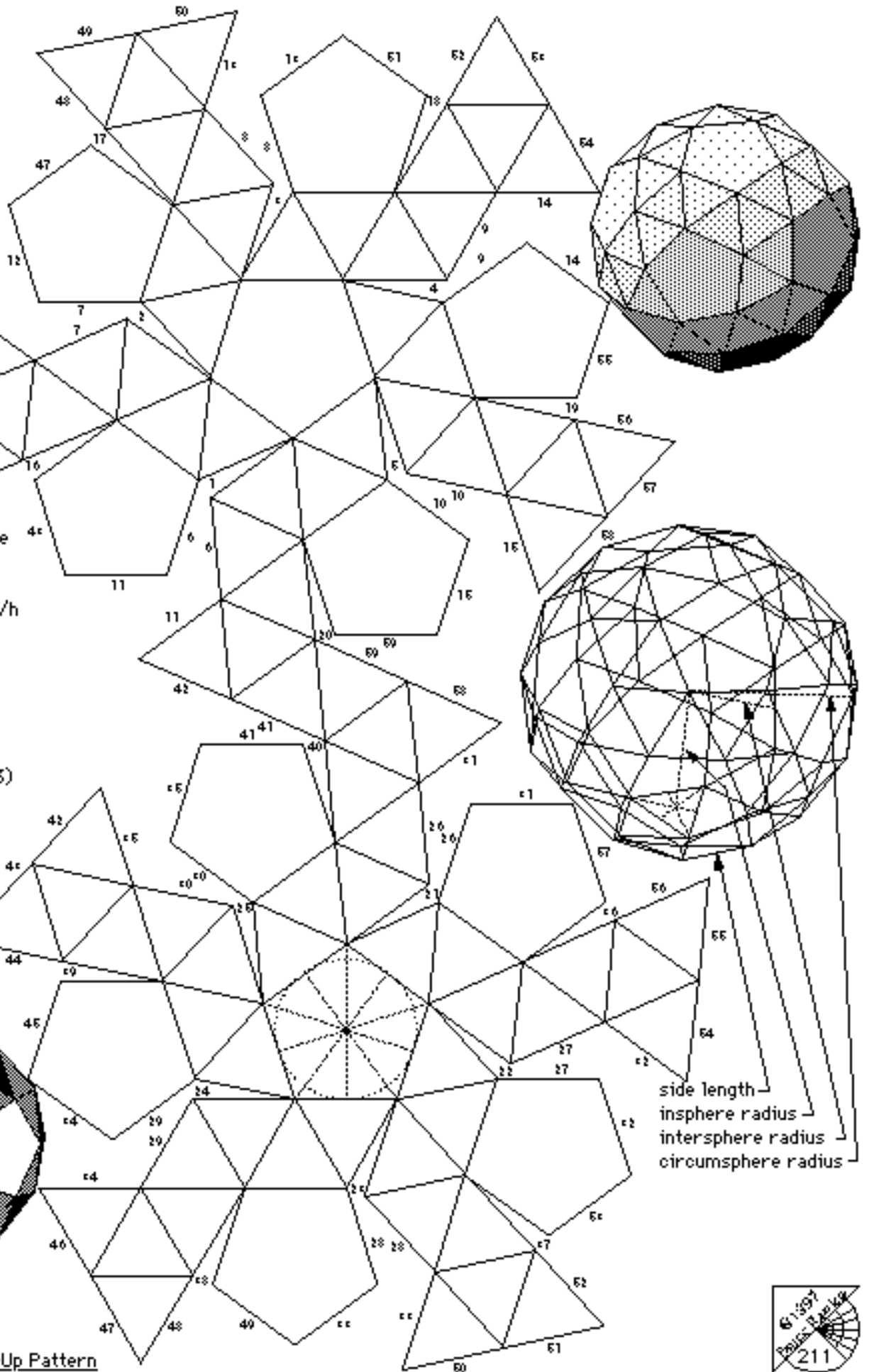
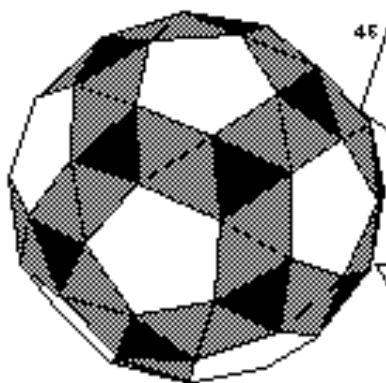
The (small) rhombicosidodecahedron has the following relative dimensions (this allows scaling to any size):
 circumsphere radius = $\sqrt{((11+4\sqrt{5})/(10+4\sqrt{5}))} \approx 1.0260538020$
 intersphere radius = 1
 insphere radius = $\sqrt{((10+4\sqrt{5})/(11+4\sqrt{5}))} \approx .9746077624$
 side length = $2/\sqrt{(10+4\sqrt{5})} \approx .4595058411$

(Small) Rhombicosidodecahedron
 Fold-Up Pattern



(approx.)

The snub dodecahedron has the following relative dimensions (this allows scaling to any size):
 circumsphere radius = $r/h \approx 1.0280314882$
 intersphere radius = 1
 insphere radius = $R/h \approx .9727328506$
 side length = $1/h \approx .4768594793$
 $R = (1/2)\sqrt{((8*(2)^{2/3}) - 16x + (2)^{1/3})x^2} / (8*(2)^{2/3} - 10x + (2)^{1/3})x^2$;
 $x = (49 + (27\sqrt{5}) + (3\sqrt{6})\sqrt{(93 + (49\sqrt{5}))^{1/3}})$;
 $r = (R^2 - (1/4))/R$;
 $h = \sqrt{R^2 - (1/4)}$

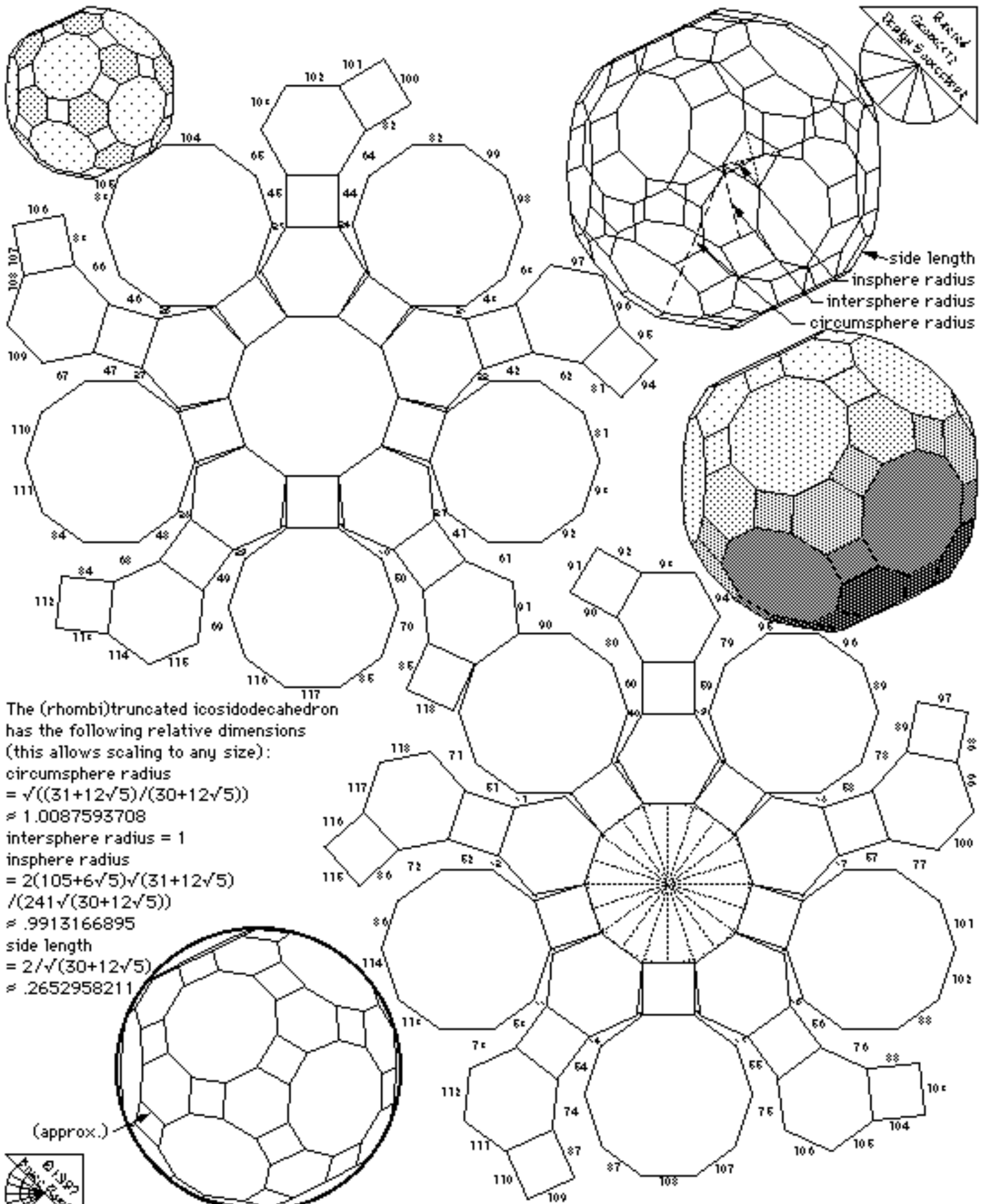


side length
 insphere radius
 intersphere radius
 circumsphere radius

Snub Dodecahedron Fold-Up Pattern

from <http://www.intent.com/sg/archimedean.html>

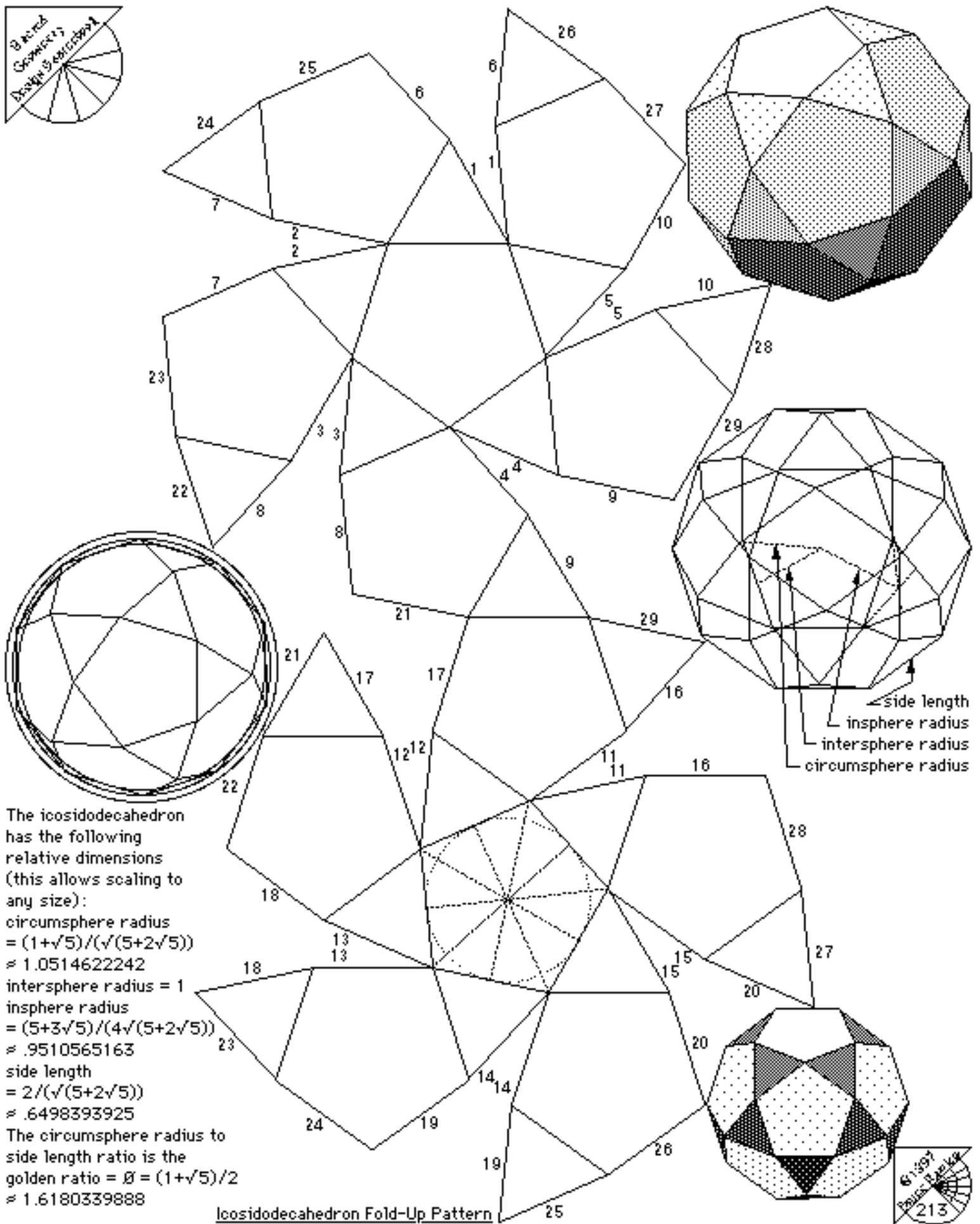




The (rhombi)truncated icosidodecahedron has the following relative dimensions (this allows scaling to any size):

- circumsphere radius
 $= \sqrt{((31+12\sqrt{5})/(30+12\sqrt{5}))}$
 ≈ 1.0087593708
- intersphere radius = 1
- insphere radius
 $= 2(105+6\sqrt{5})\sqrt{(31+12\sqrt{5})}$
 $/(241\sqrt{(30+12\sqrt{5})})$
 $\approx .9913166895$
- side length
 $= 2/\sqrt{(30+12\sqrt{5})}$
 $\approx .2652958211$

(Rhombi)truncated Icosidodecahedron (a.k.a. Great Rhombicosidodecahedron) Fold-Up Pattern



The icosidodecahedron has the following relative dimensions (this allows scaling to any size):

circumsphere radius
 $= (1+\sqrt{5})/(\sqrt{5+2\sqrt{5}})$
 ≈ 1.0514622242

intersphere radius = 1
 insphere radius

$= (5+3\sqrt{5})/(4\sqrt{5+2\sqrt{5}})$
 $\approx .9510565163$

side length
 $= 2/(\sqrt{5+2\sqrt{5}})$
 $\approx .6498393925$

The circumsphere radius to side length ratio is the golden ratio $= \phi = (1+\sqrt{5})/2$
 ≈ 1.6180339888

Icosidodecahedron Fold-Up Pattern

