

Type: P - Platonic, A - Archimedean

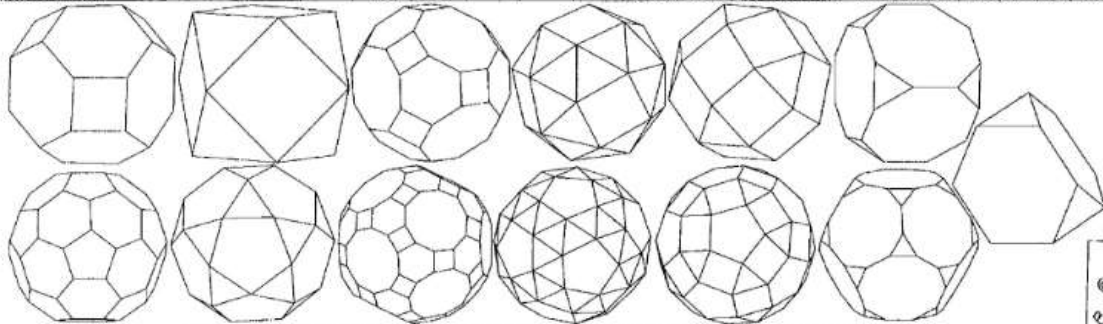
#	Name(s)	symmetry	# of triangles	# of squares	# of pentagons	# of hexagons	# of octagons	# of decagons	total # of faces	total # of edges	total # of vertices (a.k.a. apices)	total surface area (edge length = 1)	total surface area (circumradius = 1)	total surface area (inradius = 1)
P 1	Tetrahedron	tetrahedral	4	0	0	0	0	0	4	6	4	1.73205080751	2.82842712465	8.48528137395
P 2	Hexahedron (cube)	2,3,4-fold	0	6	0	0	0	0	6	12	8	6.00000000000	6.92820323028	12.00000000000
P 3	Octahedron	2,3,4-fold	8	0	0	0	0	0	8	12	6	3.46410161502	4.89897948504	8.48528137395
P 4	Dodecahedron	2,3,5-fold	0	0	12	0	0	0	12	30	20	20.64572880390	14.73720419482	18.541101966145
P 5	Icosahedron	2,3,5-fold	20	0	0	0	0	0	20	30	12	8.66025402755	9.10592997279	11.45898033711
A 1	Truncated Octahedron (Mecon)	2,3,4-fold	0	6	0	0	8	0	14	36	24	26.78460968939	16.94007457142	18.82230507935
A 2	Cuboctahedron (Dymaxion)	2,3,4-fold	8	6	0	0	0	0	14	24	12	9.46410161502	9.46410161502	12.61880215336
A 3	Truncated Cuboctahedron	2,3,4-fold	0	12	0	0	8	6	26	72	48	61.75517243511	26.64604834727	27.94678949212
A 4	Snub Cube	2,3,4-fold	32	6	0	0	0	0	38	60	24	19.85640646007	14.77726340160	17.15216535192
A 5	(Small) Rhombicuboctahedron	2,3,4-fold	8	18	0	0	0	0	26	48	24	21.46410161502	15.34282935667	17.58973469466
A 6	Truncated Cube	2,3,4-fold	8	0	0	0	6	14	26	36	24	32.43466436074	18.23377176248	19.79798208648
A 7	Truncated Icosahedron (soccer ball)	2,3,5-fold	0	0	12	20	0	0	32	90	60	72.60725302937	29.30052716257	30.54406110566
A 8	Icosidodecahedron	2,3,5-fold	20	0	12	0	0	0	32	60	30	29.30598284344	18.11209347097	20.02423805557
A 9	Truncated Icosidodecahedron	2,3,5-fold	0	30	0	20	0	12	62	180	120	174.29203032745	45.83744015364	46.64397137270
A 10	Snub Dodecahedron	2,3,5-fold	80	0	12	0	0	0	92	150	60	55.28674495608	25.64513705637	27.1030380454
A 11	(Small) Rhombicosidodecahedron	2,3,5-fold	20	30	12	0	0	0	62	120	60	59.30598284344	26.55947034803	27.96144929313
A 12	Truncated Dodecahedron	2,3,5-fold	20	0	0	0	12	32	32	90	60	100.99076014152	34.00993234839	35.00232879992
A 13	Truncated Tetrahedron	tetrahedral	4	0	0	0	4	0	8	18	12	12.12435565220	10.33968524160	12.63739307307

e = edge length  
r = insphere radius = inradius  
R = circumsphere radius = circumradius

#	Name(s)	Volume *	Dihedral angles between polygons with this many sides						Central Angle	Circumradius (R) /Inradius (r)	Circumradius (R) /Circumradius (R)	Edge Length (e) /Inradius (r)	Edge Length (e) /Circumradius (R)	Edge Length (e) /Inradius (r)	
			3-3	4-4	5-5	3-4	3-5	3-6							
P 1	Tetrahedron	0.117851	70°32'						109°28'	1.732050807569	1.732050807569	1.632993161855	2.828427124746	4.898979485566	
P 2	Hexahedron (cube)	1.000000	90°						70°32'	1.732050807569	1.224744871392	1.154700538379	2.000000000000	2.000000000000	
P 3	Octahedron	0.471405	109°28'						90°	1.732050807569	1.414213562373	1.414213562373	2.000000000000	2.449489742783	
P 4	Dodecahedron	7.663119			116°34'				41°49'	1.258408572365	1.070466269319	0.713644179546	0.763932022500	0.898055953159	
P 5	Icosahedron	2.181695	138°11'						63°26'	1.258408572365	1.175570504585	1.051462224238	1.236067977500	1.323169076499	
A 1	Truncated Octahedron (Mecon)	11.31371				6-6->	109°28'	36°52'	1.111111111111	1.054092553389	0.62445532034	0.666666666667	0.702728368926	0.702728368926	
A 2	Cuboctahedron (Dymaxion)	2.357023				125°16'			60°	1.333333333333	1.154700538379	1.000000000000	1.154700538379	1.333333333333	
A 3	Truncated Cuboctahedron	41.79899					6-8->	125°16'	24°55'	1.048815536469	1.024116954488	0.431478810546	0.441884763381	0.465341680156	
A 4	Snub Cube	7.889477	153°14'			142°59'			43°41'	1.160713244786	1.077364026124	0.744206331156	0.801781129201	0.863810145426	
A 5	(Small) Rhombicuboctahedron	8.714045	144°44'	135°					41°53'	1.146446609407	1.07022470768	0.714813488673	0.765366864730	0.819495500448	
A 6	Truncated Cube	13.59966					8-8->	90°	32°39'	1.085786437627	1.042010766560	0.562169275430	0.585786437627	0.610395774912	
A 7	Truncated Icosahedron (soccer ball)	55.28773							23°17'	1.042440667917	1.020999637373	0.403548212335	0.412022659167	0.420675068003	
A 8	Icosidodecahedron	13.83553				142°37'			36°	1.105572809000	1.051462224238	0.618033988750	0.649839394666	0.683281573000	
A 9	Truncated Icosidodecahedron	206.8034				6-10->	142°37'	15°6'	1.017595468167	1.008759370795	0.262992175073	0.262595821050	0.267619645517	0.490226560201	
A 10	Snub Dodecahedron	37.61665	164°11'						26°49'	1.056848740756	1.028031488212	0.463856880645	0.476859479327	0.462626560201	
A 11	(Small) Rhombicosidodecahedron	41.61532				159°6'			25°52'	1.052786404500	1.026053801952	0.447837959589	0.459505841095	0.471472715274	
A 12	Truncated Dodecahedron	85.03966					10-10->	116°34'	19°24'	1.029179606750	1.014484892251	0.336762811773	0.341640786500	0.346589418189	
A 13	Truncated Tetrahedron	2.210576							109°28'	50°28'	1.222222222222	1.105541596785	0.852802865422	0.942809041582	1.042314613294

\* in multiples of edge length cubed

#	Name(s)	Dihedral angles between polygons with this many sides						Inradius (r) /Circumradius (R)	Interradius (rho) /Circumradius (R)	Circumradius (R) /Edge Length (e)	Interradius (rho) /Edge Length (e)	Inradius (r) /Edge Length (e)	
		3-8	3-10	4-5	4-6	4-8	4-10	5-6					
P 1	Tetrahedron	0.333333333333							0.577350269190	0.612372435696	0.335353390593	0.204124145232	
P 2	Hexahedron (cube)	0.577350269190							0.816496580928	0.866025403784	0.707106781187	0.500000000000	
P 3	Octahedron	0.577350269190							0.707106781187	0.707106781187	0.500000000000	0.408248290464	
P 4	Dodecahedron	0.794654472292							0.934172358963	1.401258538444	1.309016994375	1.113516264412	
P 5	Icosahedron	0.794654472292							0.850650808352	0.951056516295	0.809016994375	0.755761314076	
A 1	Truncated Octahedron (Mecon)					125°16'			0.900000000000	0.948683296051	1.581138830084	1.500000000000	1.423024947076
A 2	Cuboctahedron (Dymaxion)								0.750000000000	0.866025403784	1.000000000000	0.866025403784	0.750000000000
A 3	Truncated Cuboctahedron					144°44'	135°		0.953456509013	0.976450976247	2.317610912893	2.263033438454	2.208741210257
A 4	Snub Cube								0.861539234167	0.928191377986	1.343713373745	1.247223167984	1.157661790956
A 5	(Small) Rhombicuboctahedron								0.872260419103	0.933948831094	1.398966325966	1.306562964876	1.220262963798
A 6	Truncated Cube					125°16'			0.920991426441	0.959682982261	1.778823645664	1.707106781187	1.638281326807
A 7	Truncated Icosahedron (soccer ball)					6-6->	138°11'	142°37'	0.959287210080	0.979432085486	2.478018659068	2.427050983125	2.377131605984
A 8	Icosidodecahedron								0.904508497187	0.951056516295	1.618033988750	1.538841768588	1.463525491562
A 9	Truncated Icosidodecahedron					159°6'	148°17'		0.982708778963	0.991316689541	3.802394499851	3.769377127922	3.736646456083
A 10	Snub Dodecahedron					152°56'			0.946209198569	0.972732850566	2.15583737116	2.097053835252	2.039873154954
A 11	(Small) Rhombicosidodecahedron					148°17'			0.948860290488	0.974607762378	2.232950509416	2.176250899483	2.120991019518
A 12	Truncated Dodecahedron					142°37'	116°34'		0.971647702152	0.985721919281	2.969449015863	2.927050983125	2.885258312920
A 13	Truncated Tetrahedron					6-6->	70°32'		0.818181818182	0.904534033733	1.172603939956	1.06060171780	0.959403223600



Platonic and Archimedean Solid Data with Relationships to Spheres

