

**Table 2.** The "traditional" uniform polyhedra and the "new" uniform polyhedra that can be derived from them.

Symbol	WS	VW	d	$\square$	g	V	E	F	C#	W#	B#	H#	N1	N2	N3	N4	N5	Notes
(3.3.3)	3   2 3	1	1	2	0	4	6	4 T	15	1	84	6	1	1		1		
(3.3.3.3)	4   2 3	1	1	2	0	6	12	8 T	17	2	85	10	1		1	1		
(3.3.3.3.3)	5   2 3	1	1	2	0	12	30	20 T	25	4	87	27	1	1	1	1		
(3.3.3.3.3)	$\frac{5}{2}$   2 3	2	7	2	0	12	30	20 T	69	41	vii.24, xi.24	38	1	1	1	1		
(3.3.3.3.4)	2 3 4	1	1	2	0	24	12+24+24	(8+24) T + 6 S	24	17	vi.33	17	1	1	2	1		
(3.3.3.3.5)	2 3 5	1	1	2	0	60	30+60+60	(20+60) T + 12 P	32	18	vi.34	34	1	1	2	1		
(3.3.3.3.3. $\frac{5}{2}$ )	3 3 $\frac{5}{2}$	1	2	-8	5	60	60+60+60	(2x20+60)T+12Pg	41	110	-	37	1		1+	?		CP
(3.3.3.3.3. $\frac{5}{2}$ )	3 $\frac{3}{2}$ $\frac{5}{2}$	2	38	-8	5	60	60+60+60	(2x20+60)T+12Pg	91	118	-	77			1+	?		CP
(3.3.3.3. $\frac{5}{2}$ )	2 3 $\frac{5}{2}$	1	7	2	0	60	30+60+60	(20+60) T + 12 Pg	73	113	-	62	1	1	2	1		
(3.3.3.3. $\frac{5}{2}$ )	2 $\frac{3}{2}$ $\frac{5}{2}$	2	37	2	0	60	30+60+60	(20+60) T + 12 Pg	90	117	-	79	1	1	2	1		
(3.3.3.3. $\frac{5}{2}$ )	2 3 $\frac{5}{2}$	1	13	2	0	60	30+60+60	(20+60) T + 12 Pg	88	116	-	74	1	1	2	1		
(3.3.3.5.3. $\frac{5}{2}$ )	3 $\frac{5}{3}$ 5	1	4	-16	9	60	60+60+60	(20+60)T+12P+12Pg	58	112	-	51	1		2+	?		
(3.3.3. $\frac{5}{2}$ .3. $\frac{5}{2}$ )	3 $\frac{5}{2}$ $\frac{5}{2}$	1	10	-16	9	60	60+60+60	(20+60)T+(2 $\square$ 12)Pg	80	115	-	69	1		1+	?		CP
(3.3.3. $\frac{11}{2}$ )	2 2 $\frac{11}{2}$	1	d	2	0	2n	2n + 2n	2n T + 2 {m/d}	34	-	vi.36, viii.13, viii.16	2,4	1		1	1		
(3.3.3. $\frac{11}{2}$ )	2 2 $\frac{11}{2}$	0	n-d	2	0	2n	2n + 2n	2n T + 2 {m/d}	35	-	viii.20	5	1		1	1		
(3.3.5.3. $\frac{5}{2}$ )	2 $\frac{5}{2}$ 5	1	3	-6	4	60	30+60+60	60T+12P+12Pg	49	111	-	45	1		2+	?		
(3.3.5.3. $\frac{5}{2}$ )	2 $\frac{5}{3}$ 5	1	9	-6	4	60	30+60+60	60 T+12P+12Pg	76	114	-1	65	1		2+	?		

Symbol	WS	VW	d	□	g	V	E	F	C#	W#	B#	H#	N1	N2	N3	N4	N5	Notes
(3.4.3.4)	2   3 4	1	1	2	0	12	24	8 T + 6 S	19	11	vi.24	12	1		1			
(3.±4.-3.±4)	$\frac{3}{2}$ 3   2	0	NO	1	-	6	12	4 T + 3 S	36	67	-	9	1	1	1	1	1	NEP
(3.4.4.4)	3 4   2	1	1	2	0	24	24 + 24	8 T + (12+6) S	22	13	vi.29	15	1	2	1	1		
(-3.4.4.4)	$\frac{3}{2}$ 4   2	1	5	2	0	24	24 + 24	8 T + (12+6) S	59	85	-	22	1	2	1	1		
(3.4.5.4)	3 5   2	1	1	2	0	60	60 + 60	20T+30S+12P	30	14	vi.31	32	1	2	2			
( $3.\pm 4.\frac{5}{2}.\pm 4.-3.\pm 4.-\frac{5}{2}.\pm 4$ )	$\frac{3}{2}$ $\frac{5}{3}$   $\frac{3}{2}$ $\frac{5}{2}$	0	?	-56	-	60	4[60	2[(20T+30S+12Pg)	92	119	-	80	1	?	1+	?		CP, O?
(3.4.- $\frac{5}{2}$ .4)	$\frac{3}{3}$ $\frac{5}{2}$   2	1	13	2	0	60	60 + 60	20T+30S+12Pg	84	105	-	72	1		3			
(3.5.3.5)	2   3 5	1	1	2	0	30	60	20 T + 12 P	28	12	vi.26	29	1					NEP
(3.5.3.5.3.5)	$\frac{3}{2}$   3 5	2	6	-8	5	20	60	20 T + 12 P	61	87	-	52	1					NEP
(3.±6.-3.±6)	$\frac{3}{2}$ 3   3	0	-	0	1	12	24	8 T + 4 H	37	68	viii.1	8	1	1	1	1		NEP,OR
(-3.6.5.6)	$\frac{3}{2}$ 5   3	1	6	-8	5	60	60 + 60	20T+12P+20H	62	88	-	53	1	2	2			
(3.6.6)	2 3   3	1	1	2	0	12	6 + 12	4 T + 4 H	16	6	vi.22	7	1	1	1	1		
( $3.6.\frac{5}{2}.6$ )	$\frac{3}{2}$ $\frac{5}{2}$   3	1	2	-8	5	60	60 + 60	20T+20H+12Pg	40	71	xii.13	36	1	2	2			
(-3.8.4.8)	$\frac{3}{2}$ 4   4	1	2	-4	3	24	24 + 24	8 T + 6 S + 6 O	38	69	viii.36	18	1	2	1	1		NEP
(3.8.8)	2 3   4	1	1	2	0	24	12 + 24	8 T + 6 O	21	8	vi.27	14	1	1	1	1		
( $3.\pm 10.-3.\pm 10$ )	$\frac{3}{2}$ 3   5	0	NO	-4	-	30	60	20 T + 6 D	63	89	vii.35	54	1			1		NEP
(-3.10.5.10)	$\frac{3}{2}$ 5   5	1	2	-16	9	60	60 + 60	20T+12P+12D	42	72	-	38	1	2	2			NEP
(3.10.10)	2 3   5	1	1	2	0	60	30 + 60	20 T + 12 D	29	10	vi.28	31	1	1	1	1		
( $3.10.-\frac{5}{2}.10$ )	$\frac{5}{3}$   5	1	4	-16	9	60	60 + 60	20T+12D+12Pg	55	82	-	48	1	2	2			

Symbol	WS	VW	d	□	g	V	E	F	C#	W#	B#	H#	N1	N2	N3	N4	N5	Notes	
$(3\frac{5}{2}.3\frac{5}{2})$	$2   3\frac{5}{2}$	1	7	2	0	30	60	20 T + 12 Pg	70	94	xi.9	59	1						
$(3\frac{5}{2}.3\frac{5}{2}.3\frac{5}{2})$	$3   3\frac{5}{2}$	1	2	-8	5	20	60	20 T + 12 Pg	39	70	ix.15	35	1						NEP
$(3\frac{8}{3}.4\frac{8}{3})$	$3\ 4   \frac{4}{3}$	1	4	-4	3	24	24 + 24	8T+6S+6Og	50	77	ix.8	19	1		2				NEP
$(3\frac{8}{3}.3\frac{8}{3})$	$2\ 3   \frac{4}{3}$	1	7	2	0	24	12 + 24	8 T + 6 Og	66	92	viii.5	24	1	1	1	1			
$(3\frac{\pm 10}{3}.\frac{\pm 10}{3}.\frac{\pm 10}{3})$	$\frac{3}{2}\ 3   \frac{5}{3}$	0	NO	-4	-	30	60	20 T + 6 Dg	85	106	-	76	1				1		
$(3\frac{10}{3}.\frac{5}{3}.\frac{10}{3})$	$3\ 5   \frac{5}{3}$	1	4	-16	9	60	60 + 60	20T+12P+12Dg	54	81	xii.15	47	1		2				NEP
$(3\frac{10}{3}.\frac{5}{3}.\frac{10}{3})$	$3\frac{5}{2}   \frac{5}{3}$	1	10	-16	9	60	60 + 60	20T+12Pg+12Dg	77	99	xii.18	66	1		2				NEP
$(3\frac{10}{3}.\frac{10}{3}.\frac{10}{3})$	$2\ 3   \frac{5}{3}$	1	13	2	0	60	30 + 60	20 T + 12 Dg	83	104	ix.21	71	1	1	1	1			
(4.4.4)	$3   2\ 4$	1	1	2	0	8	12	6 S	18	3	86	11	1	1	1	2			
$(4.4.\frac{n}{d})$	$2\frac{n}{d}   2$	1	d	2	0	2n	n + 2n	n S + 2 {n/d}	33	-	vi.35, viii.17	1,2	1*	1	1*	1***			
$(4.5.4\frac{5}{2})$	$\frac{5}{2}\ 5   2$	1	3	-6	4	60	60 + 60	30S+12P+12Pg	48	76	xii.14	43	1		2				
$(4.\pm 6.-4.\pm 6)$	$\frac{4}{3}\ 4   3$	0	-	-2	-	12	24	6 S + 4 H	51	78	-	20					1		OR
$(4.6.-4.-6)$	$2\ 3 (\frac{5}{4} / \frac{5}{2})$	0	NO	-10	-	60	60 + 60	30 S + 20 H	72	96	-	61					1		
(4.6.6)	$2\ 4   3$	1	1	2	0	24	12 + 24	6 S + 8 H	20	7	vi.23	13	1	1	1	1			
(4.6.8)	$2\ 3\ 4   1$	1	1	2	0	48	24+24+24	12S+8H+6O	23	15	vi.30	16	1	1	3	3			
(4.6.10)	$2\ 3\ 5   1$	1	1	2	0	120	60+60+60	30S+20H+12D	31	16	vi.32	33	1	1	3	3			
$(4.-6.-\frac{8}{3})$	$2\ 3\frac{4}{3}   1$	0	1	2	0	48	24+24+24	12S+8H+6Og	67	93	viii.23	25	1	1	3	3			
$(4.6.\frac{10}{3})$	$2\ 3\frac{5}{3}   1$	1	13	2	0	120	60+60+60	30S+20H+12Dg	87	108	-	73	1	1	3	3			

Symbol	WS	VW	d	□	g	V	E	F	C#	W#	B#	H#	N1	N2	N3	N4	N5	Notes
(4.8.-4.-8)	2 4 ( $\frac{3}{2}$ / $\frac{4}{2}$ )	10	NO	-6	-	24	24 + 24	12 S + 6 O	60	86	-	23					1	NEP
(4.10.-4.-10)	2 5 ( $\frac{3}{2}$ / $\frac{5}{2}$ )	10	NO	-18	-	60	60 + 60	30 S + 12 D	46	74	xii.5						1	NEP
(4.-10. $\frac{10}{3}$ )	2 $\frac{5}{3}$ 5	0	3	-6	4	120	60+60+60	30S+12D+12Dg	75	98	vii.33			1	3	3		
(4. $\frac{8}{3}$ .-4.- $\frac{8}{3}$ )	2 $\frac{4}{3}$ ( $\frac{3}{2}$ / $\frac{4}{2}$ )	0	NO	-6	-	24	24 + 24	12 S + 6 Og	82	103	-						1	NEP
(4. $\frac{10}{3}$ .-4.- $\frac{10}{3}$ )	2 $\frac{5}{3}$ ( $\frac{3}{2}$ / $\frac{5}{2}$ )	0	NO	-18	-	60	60 + 60	30 S + 12 Dg	89	109	-						1	NEP
(5.5.5)	3   2 5	1	1	2	0	20	30	12 P	26	5	88		1	1				
(5.5.5.5.5)	$\frac{5}{2}$   2 5	2	3	-6	4	12	30	12 P	44	21	vii.22, ix.7		1	1				
(5.±6.-5.±6)	$\frac{5}{4}$ 5   3	0	NO	-8	-	30	60	12 P + 10 H	81	102	-		1				1	
(5.6.6)	2 5   3	1	1	2	0	60	30 + 60	12 P + 20 H	27	9	vi.25		1	1	1	1		
(5.6.- $\frac{5}{2}$ .6)	$\frac{5}{3}$ 5   3	1	4	-16	9	60	60 + 60	12P+20H+12Pg	56	83	-		1					
(5.±10.-5.±10)	$\frac{5}{4}$ 5   5	0	NO	-12	-	30	60	12 P + 6 D	65	91	-	56	1				1	NEP
(5. $\frac{5}{2}$ .-5. $\frac{5}{2}$ )	2   $\frac{5}{2}$ 5	1	3	-6	4	30	60	12 P + 12 Pg	45	73	ix.13	41	1					
(5.- $\frac{5}{2}$ .-5.- $\frac{5}{2}$ .-5.- $\frac{5}{2}$ )	3   $\frac{5}{3}$ 5	1	4	-16	9	20	60	12 P + 12 Pg	53	80	-	46	1					NEP
(-5. $\frac{10}{3}$ .- $\frac{10}{3}$ )	2 5   $\frac{5}{3}$	0	9	-6	4	60	30 + 60	12 P + 12 Dg	74	97	xii.23	63						
(6.6. $\frac{5}{2}$ )	2 $\frac{5}{2}$   3	1	7	2	0	60	30 + 60	20 H + 12 Pg	71	95	ix.9	60	1	1	1	1		
(6.-8. $\frac{8}{3}$ )	3 $\frac{4}{3}$ 4	0	4	-4	3	48	24+24+24	8 H+60+60g	52	79	xi.12	21		1	3	3		
(6.±10.-6.±10)	3 5 ( $\frac{3}{2}$ / $\frac{5}{4}$ )	10	NO	-28	-	60	120	20 H + 12 D	64	90	-	55		1			1	
(6.10. $\frac{10}{3}$ )	3 $\frac{5}{3}$ 5	1	4	-16	9	120	60+60+60	20H+12D+12Dg	57	84	ix.19	50		1	3	3		

Symbol	WS	VW	d	□	g	V	E	F	C#	W#	B#	H#	N1	N2	N3	N4	N5	Notes
$(\pm 6 \frac{5}{2} \cdot \pm 6 \cdot \frac{5}{2})$	$5 \frac{5}{2}   3$	0	NO	-8	-	30	60	10 H + 12 Pg	78	100	xii.1	67	1				1	NEP
$(6 \cdot \frac{10}{3} \cdot -6 \cdot \frac{10}{3})$	$3 \frac{5}{3} (\frac{3}{2} / \frac{5}{2})$	0	NO	-28	-	60	60 + 60	20 H + 12 Dg	79	101	-	68					1	NEP
$(10 \cdot 10 \frac{5}{2})$	$2 \frac{5}{2}   5$	1	3	-6	4	60	30 + 60	12 D + 12 Pg	47	75	ix.2	42	1		1			
$(\frac{5}{2} \cdot \frac{5}{2} \cdot \frac{5}{2})$	$3   2 \frac{5}{2}$	1	7	2	0	20	30	12 Pg	68	22	vii.21, ix.1639	57	1			1		
$(\frac{5}{2} \cdot \frac{5}{2} \cdot \frac{5}{2} \cdot \frac{5}{2})$	$5   2 \frac{5}{2}$	1	3	-6	4	12	30	12 Pg	43	20	vii.23, x.5	75	1				1	NEP
$(\frac{5}{2} \cdot \frac{10}{3} \cdot \frac{5}{2} \cdot \frac{10}{3})$	$\frac{5}{3} \frac{5}{2}   \frac{5}{2}$	0	NO	-12	-	30	60	12 Pg + 6 Dg	86	107	-		1				1	

Table 1. The "traditional" uniform polyhedra and the "new" uniform polyhedra that can be derived from them.

Explanations of the entries in the table:

± in the symbol indicates that the plane of the face passes through the center.

WS is the Wythoff symbol, which describes a method of generating the polyhedron; see Coxeter et al. [C].

VW stands for "vertex winding"; it is the winding number of the vertex figure.

d is the "density" as given by Coxeter et al., that is, the winding number with respect to the center. NO indicated nonorientable.

□ is the Euler characteristic, and g is the genus of the (orientable) map whose graph is isomorphic to that of the polyhedron.

V, E, F denote the number of vertices, edges and faces, respectively. T = equilateral triangle; S = square; P = regular pentagon;

H = regular hexagon; O = regular octagon; D = regular decagon; Pg = pentagram {5/2}; Og = octagram {8/3}; Dg = decagram {10/3}.

C# is the number in the Coxeter et al. paper [CLM]; W# is the number in Wenningers book [W]. B# is the number of the in-text figure, or, if preceded by a

Roman numeral, in the appropriate plate, in [B]. Some polyhedra shown in [B] are only isogonal, not uniform. H# is the number in [HE].

CP stands for "Coplanar" and means that there are pairs of coplanar faces.

NEP stands for "no edge pairs" and means that there are pairs of vertices incident with pairs of faces but not defining an edge.

OR means that the polyhedron is orientable even though there is no density defined. O? means that I do not know whether the polyhedron is orientable or not.

N1 to N5 are the various methods for obtaining "new" uniform polyhedra, as described in Section 3. The number shown indicates how many distinct ones are possible. 1\* means that there are either one or more possibilities, depending on the parity of n; an exponent + means that there may be additional possibilities which I did not investigate, while ? means that I do not know the answer.