

# Table of Basic Invariants

$$5 \leq N \leq 15$$

$N$	$e$	$m$	$g$	$r_0$	$r_1$	$s_{11}$	$r_\infty$	$\mathbb{L}_\infty$	$6\mathbb{S}_\infty$	$c_\infty$
5	1	60	5	2	2	1	2	5	0	-1
5	2	60	5	2	2	1	2	4	0	-1
6	1	72	6	4	3	3	3	3	2	-2
6	5	72	6	4	3	0	3	8	-2	-2
7	1	168	7	4	2	1	3	5	3	-2
7	3	168	7	4	2	1	3	12	-3	-2
8	1	192	8	4	4	2	4	4	6	-2
8	3	192	8	4	4	2	4	8	0	-2
8	5	192	8	4	4	2	4	8	0	-2
8	7	192	8	4	4	2	4	18	-6	-2
9	1	324	9	6	3	3	5	11	2	-3
9	2	324	9	6	3	0	5	16	-2	-3
10	1	360	10	4	6	3	6	17	0	-2
10	3	360	10	4	6	3	6	12	0	-2
11	1	660	11	6	4	2	5	15	3	-3
11	2	660	11	6	4	2	5	22	-3	-3
12	1	576	12	8	6	6	8	8	13	-4
12	5	576	12	8	6	0	8	18	-1	-4
12	7	576	12	8	6	6	8	16	1	-4
12	11	576	12	8	6	0	8	38	-13	-4
13	1	1092	13	6	4	2	6	27	0	-3
13	2	1092	13	6	4	2	6	22	0	-3
14	1	1008	14	8	6	3	9	19	6	-4
14	3	1008	14	8	6	3	9	32	-6	-4
15	1	1440	15	8	6	6	12	20	16	-4
15	2	1440	15	8	6	0	12	24	8	-4
15	7	1440	15	8	6	6	12	40	-8	-4
15	11	1440	15	8	6	0	12	56	-16	-4

**Note:** All the other invariants can be derived from the above invariants via the following formulae:

$$\begin{aligned}
 g_0 &= (g+1)/2 - r_0/4 \\
 g_1 &= ((g+2) - r_1)/3 \\
 g_\infty &= (g-1)/N + 1 - r_\infty/2 + m/(2 * N^2) - \phi(N)/4 \\
 h &= 2(g - g_0 - g_1 - g_\infty) \\
 \mathbb{L} &= r_0 + 2r_1 - s_{11} + \mathbb{L}_\infty \\
 \mathbb{S} &= (2s_{11} - r_1)/18 + \mathbb{S}_\infty \\
 p_g &= h/4 - \mathbb{S} \\
 h^{11} &= 2 + h/2 + 2\mathbb{S} + \mathbb{L} \\
 b_2 &= 2 + h + \mathbb{L} \\
 sgn &= -4\mathbb{S} - \mathbb{L} \\
 c_2 = \chi_{top} &= 4 + h + \mathbb{L} \\
 K^2 &= 8 + 2h - \mathbb{L} - 12\mathbb{S} \\
 c_0 &= -r_0/2 \\
 c_1 &= -(2r_1 - s_{11})/3 \\
 \kappa &= \min(2, p_g - 1)
 \end{aligned}$$