

A185972/A185973:

Divisor Product Representation for Primorials A002110

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Table 1: A185972(n, m) array for arguments of divisor products appearing in the numerator of the divisor product representation of primorials A002110

n/m	1	2	3	4	5	6	7	8	8	10	11	12	13	14	15	16	...
1	2																
2	6	1															
3	30	5	3	2													
4	210	35	21	15	14	10	6	1									
5	2310	385	231	165	154	110	105	70	66	42	30	11	7	5	3	2	
⋮																	

The next rows are:

6:

[30030, 5005, 3003, 2145, 2002, 1430, 1365, 1155, 910, 858, 770, 546, 462, 390, 330, 210, 143, 91, 77, 65, 55, 39, 35, 33, 26, 22, 21, 15, 14, 10, 6, 1],

7:

[510510, 85085, 51051, 36465, 34034, 24310, 23205, 19635, 15470, 15015, 14586, 13090, 10010, 9282, 7854, 6630, 6006, 5610, 4290, 3570, 2730, 2431, 2310, 1547, 1309, 1105, 1001, 935, 715, 663, 595, 561, 455, 442, 429, 385, 374, 357, 286, 273, 255, 238, 231, 195, 182, 170, 165, 154, 130, 110, 105, 102, 78, 70, 66, 42, 30, 17, 13, 11, 7, 5, 3, 2],

8:

[9699690, 1616615, 969969, 692835, 646646, 461890, 440895, 373065, 293930, 285285, 277134, 255255, 248710, 190190, 176358, 170170, 149226, 125970, 114114, 106590, 102102, 81510, 72930, 67830, 51870, 46410, 46189, 43890, 39270, 30030, 29393, 24871, 20995, 19019, 17765, 17017, 13585, 12597, 12155, 11305, 10659, 8645, 8398, 8151, 7735, 7315, 7293, 7106, 6783, 6545, 5434, 5187, 5005, 4862, 4845, 4641, 4522, 4389, 3927, 3705, 3458, 3315, 3230, 3135, 3094, 3003, 2926, 2805, 2618, 2470, 2210, 2145, 2090, 2002, 1995, 1938, 1870, 1785, 1482, 1430, 1365, 1330, 1326, 1254, 1190, 1155, 1122, 910, 858, 798, 770, 714, 570, 546, 510, 462, 390, 330, 323, 247, 221, 210, 209, 187, 143, 133, 119, 95, 91, 85, 77, 65, 57, 55, 51, 39, 38, 35, 34, 33, 26, 22, 21, 15, 14, 10, 6, 1],

etc.

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Table 2: [A185973](#)(n, m) array for arguments of divisor products appearing in the denominator of the divisor product representation of primorials [A002110](#)

n/m	1	2	3	4	5	6	7	8	8	10	11	12	13	14	15	16	...
1	1																
2	3	2															
3	15	10	6	1													
4	105	70	42	30	7	5	3	2									
5	1155	770	462	330	210	77	55	35	33	22	21	15	14	10	6	1	
⋮																	

The next rows are:

6:

[15015, 10010, 6006, 4290, 2730, 2310, 1001, 715, 455, 429, 385, 286, 273, 231, 195, 182, 165, 154, 130, 110, 105, 78, 70, 66, 42, 30, 13, 11, 7, 5, 3, 2],

7:

[255255, 170170, 102102, 72930, 46410, 39270, 30030, 17017, 12155, 7735, 7293, 6545, 5005, 4862, 4641, 3927, 3315, 3094, 3003, 2805, 2618, 2210, 2145, 2002, 1870, 1785, 1430, 1365, 1326, 1190, 1155, 1122, 910, 858, 770, 714, 546, 510, 462, 390, 330, 221, 210, 187, 143, 119, 91, 85, 77, 65, 55, 51, 39, 35, 34, 33, 26, 22, 21, 15, 14, 10, 6, 1],

8:

[4849845, 3233230, 1939938, 1385670, 881790, 746130, 570570, 510510, 323323, 230945, 146965, 138567, 124355, 95095, 92378, 88179, 85085, 74613, 62985, 58786, 57057, 53295, 51051, 49742, 41990, 40755, 38038, 36465, 35530, 34034, 33915, 27170, 25935, 25194, 24310, 23205, 22610, 21945, 21318, 19635, 17290, 16302, 15470, 15015, 14630, 14586, 13566, 13090, 10374, 10010, 9690, 9282, 8778, 7854, 7410, 6630, 6270, 6006, 5610, 4290, 4199, 3990, 3570, 3553, 2730, 2717, 2431, 2310, 2261, 1729, 1615, 1547, 1463, 1309, 1235, 1105, 1045, 1001, 969, 935, 741, 715, 665, 663, 646, 627, 595, 561, 494, 455, 442, 429, 418, 399, 385, 374, 357, 286, 285, 273, 266, 255, 238, 231, 195, 190, 182, 170, 165, 154, 130, 114, 110, 105, 102, 78, 70, 66, 42, 30, 19, 17, 13, 11, 7, 5, 3, 2],

etc.