

EMS 11, 224, 59 ?

Sloane sequence # 2572

$k$	$w(k)$
1	1
2	1
3	1
4	2
5	3
6	5
7	9
8	16
9	28
10	50
11	89
12	159
13	285
14	510
15	914
16	1639
17	2938
18	5269
19	9451
20	16952
21	30410
22	54555
23	97871
24	175586
25	315016
26	565168
27	1013976
28	1819198
29	3263875
30	5835833
31	10506175
32	18849555
33	33818794

$w(k)$  is the number of partitions of 1 into exactly  $k$  powers of  $1/2$ .

The problem was suggested by

David Hawkins (then at Boulder),

and solved by me circa 1961.

Paul R Stein

k	W(k)
34	60675786
35	108861148
36	195312750
37	350419594
38	628704034
39	1127987211
40	2023774607
41	3630948907
42	6514456005
43	11687891925
44	20969797150
45	37622900973
46	67501019886
47	121106762323
48	217283353640
49	389838313476
50	699427308155
51	1254875530736
52	2251431395067
53	4039399293761
54	7247276867411
55	13002681389917
56	23328724221849
57	41855164920436
58	75094326386141
59	134730274434996
60	241725942889019
61	433691920566543
62	778107139329469
63	1396038735497338
64	2504698970816621
65	4493798613905269
66	8062536144230357
67	14465376547257194

68	25953014648523851
69	46563528239276954
70	83541823231748146
71	149886327192362829
72	268918132381873003
73	482478710890290470
74	865637822190493777
75	1553081664110149303
76	2786457099682413233
77	4999314168596450359
78	8969505455219101342
79	16092612986114092685
80	28872516329224367815
81	51801543969317724511
82	92939594422853556796
83	166747311945008694202
84	299169220756249218052
85	536753616018831168748
86	963014990582976052936
87	1727790636914878448840
88	3099910711881621664776
89	5561696085352672474153
90	9978501389496992830602
91	17902900203846694149570
92	32120438049570839626704
93	57628793589244240126722
94	103394537939562581667562
95	185505019451437935478414
96	332823308923662560905200
97	597134003653706132733855
98	1071346293240802625813023
99	1922152938901194880690729
100	3448625289354562721060296
101	6187341363780618339584784

102	11101001106187330905846848
103	19916829913563136349144241
104	35733724374165408118295231
105	64111561086298637208492727
106	115025577011889659383206933
107	206372815491241373911209099
108	370263206498669879366819462
109	664306690589754868437192224
110	1191863980586733331109750917
111	2138379408701925589454088787
112	3836567402019612134850809391
113	6883366614147597991155596317
114	12349772851591246934012008674
115	22157310228461096541228297062
116	39753475829882096494788768913
117	71323586855189333865746056729
118	127965012761623069805933858027
119	229588067750001919360707860216
120	411914786046795881585394417889
121	739035754892693932889763956183
122	1325938921133473231693721066769
123	2378929586203677688885301352107
124	42681498264470339096371.75645054
125	7657689007126478809895294848253
126	13739021195204853728581476064138
127	24649826236952394268689813087395