AN ATLAS OF GRAPHS

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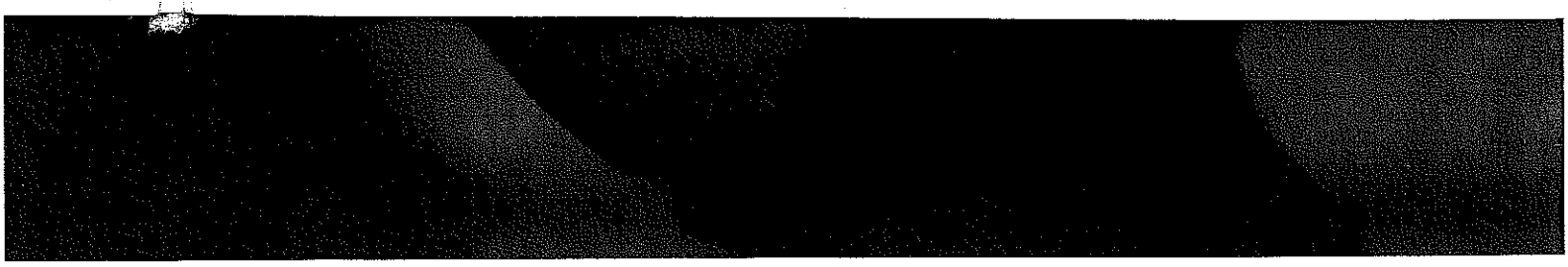
rcher in his *Ars*



Contents

Italic entries refer to the pictures of graphs

Index of abbreviations

We list here the abbreviations for the various types of graphs depicted in this *Atlas*.

Tables of graph numbers

Graphs with n vertices, for n = 1, 2, . . . , 25

n	*graphs*
1	1
2	2
3	4
4	11
5	34
6	156
7	1044
8	12346
9	2 74668
10	120 05168
11	10189 97864
12	16 50911 72592
13	5050 20313 67952
14	29 05415 56572 35488
15	31426 48596 98043 08768
16	640 01015 70452 75578 94928
17	24 59358 64153 53293 26837 19776
18	1 78757 77251 45611 70054 78781 90848
19	24637 80925 31250 04524 38300 74914 32768
20	6454 90122 79579 98418 56164 63849 07427 49440
21	3222 02728 99808 98343 35022 44253 75528 36160 97664
22	3070 84648 30941 44300 63756 85171 87105 41058 66578 14272
23	5599 24939 69979 20805 97976 38081 94621 79812 27634 84589 81632
24	19570 49063 02078 44792 21748 62416 72625 60041 22075 26706 33657 54368
25	1 31331 39356 98955 19432 16154 84058 16890 14638 92147 06146 48338 04585 76384

Connected graphs with n vertices, for n = 1, 2, . . . , 25

n	*connected graphs*
1	1
2	1
3	2
4	6
5	21
6	112
7	853
8	11117
9	2 61080
10	117 16571
11	10067 00565
12	16 40598 30476
13	5033 59078 69219
14	29 00348 74628 48061
15	31397 38114 27612 41960
16	639 69560 11322 51761 76277
17	24 58718 31682 08402 65195 28568
18	1 78733 17252 48899 08889 02005 76580
19	24636 02142 93998 67655 32265 07596 81644
20	6454 65483 19872 27994 26731 12879 45022 83004
21	3221 96273 85046 58981 82320 44119 08215 73234 36797
22	3070 81426 21757 29723 89556 84543 99186 82950 95501 71755
23	5599 43868 82108 80679 65169 46729 81026 45124 90467 68525 69700
24	19570 43463 52067 86942 41449 39394 11275 95390 46378 87524 67290 14803
25	1 31331 19786 44292 67343 03846 15711 21231 90135 75463 49778 70337 47441 10480

2-connected graphs with n vertices, for n = 3, 4, . . . , 20

n	*2-connected graphs*
3	1
4	3
5	10
6	56
7	468
8	7123
9	1 94066
10	97 43542
11	9009 69091
12	15 36203 33545
13	4843 29391 50704
14	28 36182 44883 94169
15	30995 89080 60333 80784
16	635 01635 42910 95975 04951
17	24 48520 79292 07337 60104 11280
18	1 78316 05940 69429 92595 28247 34641
19	24603 88705 13509 45867 49281 66639 58981
20	6449 97704 30459 87615 31891 39098 95833 04810

3-connected graphs with n vertices, for n = 4, 5, . . . , 20

n	*3-connected graphs*
4	1
5	3
6	17
7	136
8	2388
9	80890
10	51 14079
11	5732 73505
12	11 30951 67034
13	3958 25505 75765
14	24 90844 57930 58442
15	28560 40514 34958 19079
16	603 64410 13017 72230 14724
17	23 74039 33018 79995 83095 30349
18	1 75032 31373 55778 19015 80820 29500
19	24333 35881 36993 71350 71522 11074 64003
20	6408 11613 27875 27544 85012 44396 35795 01421

raphs

1
1
2
6
21
112
853
11117
61080
16571
00565
30476
69219
48061
41960
76277
28568
76580
81644
83004
36797
71755
69700
14803
10480

The numbers of graphs with n vertices and e edges, for n = 1, . . . , 10 and all values of e

e \ *n*	1	2	3	4	5	6	7	8	9	10
0	1	1	1	1	1	1	1	1	1	1
1		1	1	1	1	1	1	1	1	1
2			1	2	2	2	2	2	2	2
3			1	3	4	5	5	5	5	5
4				2	6	9	10	11	11	11
5				1	6	15	21	24	25	26
6				1	6	21	41	56	63	66
7					4	24	65	115	148	165
8					2	24	97	221	345	428
9					1	21	131	402	771	1103
10					1	15	148	663	1637	2769
11						9	148	980	3252	6759
12						5	131	1312	5995	15772
13						2	97	1557	10120	34663
14						1	65	1646	15615	71318
15						1	41	1557	21933	136433
16							21	1312	27987	241577
17							10	980	32403	395166
18							5	663	34040	596191
19							2	402	32403	828728
20							1	221	27987	1061159
21							1	115	21933	1251389
22								56	15615	1358852
23								24	10120	1358859
24								11	5995	1251385
25								5	3252	1061159
26								2	1637	828728
27								1	771	596191
28								1	345	395166
29									148	241577
30									63	136433
31									25	71318
32									11	34663
33									5	15772
34									2	6759
35									1	2769
36									1	1103
37										428
38										165
39										66
40										26
41										11
42										5
43										2
44										1
45										1

The numbers of connected graphs with n vertices and e edges, for n = 1, . . . , 10 and all values of e

e \ *n*	1	2	3	4	5	6	7	8	9	10
0	1	0	0	0	0	0	0	0	0	0
1		1	0	0	0	0	0	0	0	0
2			1	0	0	0	0	0	0	0
3			1	2	0	0	0	0	0	0
4				2	3	0	0	0	0	0
5				1	5	6	0	0	0	0
6				1	5	13	11	0	0	0
7					4	19	33	23	0	0
8					2	22	67	89	47	0
9					1	20	107	236	240	106
10					1	14	132	486	797	657
11						9	138	814	2075	2678
12						5	126	1169	4495	8548
13						2	95	1454	8404	22950
14						1	64	1579	13855	53863
15						1	40	1515	20303	112618
16							21	1290	26691	211866
17							10	970	31400	361342
18							5	658	33366	561106
19							2	400	31996	795630
20							1	220	27764	1032754
21							1	114	21817	1229228
22								56	15558	1343120
23								24	10096	1348674
24								11	5984	1245369
25								5	3247	1057896
26								2	1635	827086
27								1	770	595418
28								1	344	394820
29									148	241428
30									63	136370
31									25	71293
32									11	34652
33									5	15767
34									2	6757
35									1	2768
36									1	1102
37										428
38										165
39										66
40										26
41										11
42										5
43										2
44										1
45										1