

Pascal's Triangle

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Level	Values	Row Total
0	1	1
1	1 1	2
2	1 2 1	4
3	1 3 3 1	8
4	1 4 6 4 1	16
5	1 5 10 10 5 1	32
6	1 6 15 20 15 6 1	64
7	1 7 21 35 35 21 7 1	128
8	1 8 28 56 70 56 28 8 1	256
9	1 9 36 84 126 126 84 36 9 1	512
10	1 10 45 120 210 252 210 120 45 10 1	1024
11	1 11 55 165 330 462 462 330 165 55 11 1	2048
12	1 12 66 220 495 792 924 792 495 220 66 12 1	4096
13	1 13 78 286 715 1287 1716 1716 1287 715 286 78 13 1	8192
14	1 14 91 364 1001 2002 3003 3432 3003 2002 1001 364 91 14 1	16384
15	1 15 105 455 1365 3003 5005 6435 6435 5005 3003 1365 455 105 15 1	32768
16	1 16 120 560 1820 4368 8008 11440 12870 11440 8008 4368 1820 560 120 16 1	65536
17	1 17 136 680 2380 6188 12376 19448 24310 24310 19448 12376 6188 2380 680 136 17 1	131072
18	1 18 153 816 3060 8568 18564 31824 43758 48620 43758 31824 18564 8568 3060 816 153 18 1	262144
19	1 19 171 969 3876 11628 27132 50388 75582 92378 92378 75582 50388 27132 11628 3876 969 171 19 1	524288
20	1 20 190 1140 4845 15504 38760 77520 125970 167960 184756 167960 125970 77520 38760 15504 4845 1140 190 20 1	1048576

The outside of the triangle is all ones. The inside values are the sum of the two values on the row above it (the one to the left and right.) This table comes out with the same results as using the combination formula.

Pascal's Triangle Revisited in the Combination Form

C	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	Row Total	
0	1																						1
1	1	1																					2
2	1	2	1																				4
3	1	3	3	1																			8
4	1	4	6	4	1																		16
5	1	5	10	10	5	1																	32
6	1	6	15	20	15	6	1																64
7	1	7	21	35	35	21	7	1															128
8	1	8	28	56	70	56	28	8	1														256
9	1	9	36	84	126	126	84	36	9	1													512
10	1	10	45	120	210	252	210	120	45	10	1												1024
11	1	11	55	165	330	462	462	330	165	55	11	1											2048
12	1	12	66	220	495	792	924	792	495	220	66	12	1										4096
13	1	13	78	286	715	1287	1716	1716	1287	715	286	78	13	1									8192
14	1	14	91	364	1001	2002	3003	3432	3003	2002	1001	364	91	14	1								16384
15	1	15	105	455	1365	3003	5005	6435	6435	5005	3003	1365	455	105	15	1							32768
16	1	16	120	560	1820	4368	8008	11440	12870	11440	8008	4368	1820	560	120	16	1						65536
17	1	17	136	680	2380	6188	12376	19448	24310	24310	19448	12376	6188	2380	680	136	17	1					131072
18	1	18	153	816	3060	8568	18564	31824	43758	48620	43758	31824	18564	8568	3060	816	153	18	1				262144
19	1	19	171	969	3876	11628	27132	50388	75582	92378	92378	75582	50388	27132	11628	3876	969	171	19	1			524288
20	1	20	190	1140	4845	15504	38760	77520	125970	167960	184756	167960	125970	77520	38760	15504	4845	1140	190	20	1	1048576	