

# Green Function for the Poisson Equation on an Infinite Square Lattice

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n	m	$g(n,m)$
0	0	0
1	0	$\frac{1}{4}$
1	1	$\frac{1}{\pi}$
2	0	$1 - \frac{2}{\pi}$
2	1	$\frac{2}{\pi} - \frac{1}{4}$
2	2	$\frac{4}{3\pi}$
3	0	$\frac{17}{4} - \frac{12}{\pi}$
3	1	$\frac{23}{3\pi} - 2$
3	2	$\frac{2}{3\pi} + \frac{1}{4}$
3	3	$\frac{23}{15\pi}$
4	0	$20 - \frac{184}{3\pi}$
4	1	$\frac{40}{\pi} - \frac{49}{4}$
4	2	$3 - \frac{118}{15\pi}$
4	3	$\frac{12}{5\pi} - \frac{1}{4}$
4	4	$\frac{176}{105\pi}$
5	0	$\frac{401}{4} - \frac{940}{3\pi}$
5	1	$\frac{3323}{15\pi} - 70$
5	2	$\frac{97}{4} - \frac{1118}{15\pi}$
5	3	$\frac{499}{35\pi} - 4$
5	4	$\frac{20}{21\pi} + \frac{1}{4}$
5	5	$\frac{563}{315\pi}$
6	0	$521 - \frac{24526}{15\pi}$
6	1	$\frac{1234}{\pi} - \frac{1569}{4}$
6	2	$168 - \frac{18412}{35\pi}$

n	m	g(n,m)
6	3	$\frac{13462}{105\pi} - \frac{161}{4}$
6	4	$5 - \frac{626}{45\pi}$
6	5	$\frac{118}{45\pi} - \frac{1}{4}$
6	6	$\frac{6508}{3465\pi}$
7	0	$\frac{11073}{4} - \frac{130424}{15\pi}$
7	1	$\frac{721937}{105\pi} - 2188$
7	2	$\frac{4321}{4} - \frac{71230}{21\pi}$
7	3	$\frac{327143}{315\pi} - 330$
7	4	$\frac{241}{4} - \frac{1312}{7\pi}$
7	5	$\frac{14369}{693\pi} - 6$
7	6	$\frac{262}{231\pi} + \frac{1}{4}$
7	7	$\frac{88069}{45045\pi}$
8	0	$14928 - \frac{4924064}{105\pi}$
8	1	$\frac{191776}{5\pi} - \frac{48833}{4}$
8	2	$6671 - \frac{6601046}{315\pi}$
8	3	$\frac{2395676}{315\pi} - \frac{9681}{4}$
8	4	$572 - \frac{888568}{495\pi}$
8	5	$\frac{131972}{495\pi} - \frac{337}{4}$
8	6	$7 - \frac{300766}{15015\pi}$
8	7	$\frac{1624}{585\pi} - \frac{1}{4}$
8	8	$\frac{91072}{45045\pi}$
9	0	$\frac{325441}{4} - \frac{1789192}{7\pi}$
9	1	$\frac{67534979}{315\pi} - 68244$
9	2	$\frac{160929}{4} - \frac{5687614}{45\pi}$
9	3	$\frac{180642653}{3465\pi} - 16594$
9	4	$\frac{18929}{4} - \frac{51506704}{3465\pi}$
9	5	$\frac{128865809}{45045\pi} - 910$
9	6	$\frac{449}{4} - \frac{15794782}{45045\pi}$
9	7	$\frac{407783}{15015\pi} - 8$
9	8	$\frac{488}{385\pi} + \frac{1}{4}$
9	9	$\frac{1593269}{765765\pi}$
10	0	$447001 - \frac{442352326}{315\pi}$
10	1	$\frac{42042774}{35\pi} - \frac{1529441}{4}$
10	2	$239096 - \frac{2602701028}{3465\pi}$
10	3	$\frac{169381594}{495\pi} - \frac{433681}{4}$
10	4	$35861 - \frac{5074709218}{45045\pi}$
10	5	$\frac{169833674}{6435\pi} - \frac{33601}{4}$
10	6	$1360 - \frac{64121996}{15015\pi}$
10	7	$\frac{20506034}{45045\pi} - \frac{577}{4}$
10	8	$9 - \frac{20055898}{765765\pi}$
10	9	$\frac{28778}{9945\pi} - \frac{1}{4}$

n	m	g(n,m)
10	10	$\frac{31037876}{14549535\pi}$
11	0	$\frac{9885457}{4} - \frac{2445665596}{315\pi}$
11	1	$\frac{3339232907}{495\pi} - \frac{2147294}{4}$
11	2	$\frac{5629729}{4} - \frac{5106921206}{1155\pi}$
11	3	$\frac{98216368309}{45045\pi} - \frac{694044}{4}$
11	4	$\frac{1024129}{4} - \frac{12077270164}{15015\pi}$
11	5	$\frac{9893552269}{45045\pi} - \frac{69912}{4}$
11	6	$\frac{55489}{4} - \frac{654336974}{15015\pi}$
11	7	$\frac{4663891073}{765765\pi} - \frac{1938}{4}$
11	8	$\frac{721}{4} - \frac{48001412}{85085\pi}$
11	9	$\frac{488160931}{14549535\pi} - \frac{10}{4}$
11	10	$\frac{10042}{7315\pi} + \frac{1}{4}$
11	11	$\frac{31730711}{14549535\pi}$
12	0	$\frac{13733044}{4} - \frac{149492671336}{3465\pi}$
12	1	$\frac{1708563272}{45\pi} - \frac{4834249}{4}$
12	2	$\frac{8231971}{45\pi} - \frac{1164931157618}{45045\pi}$
12	3	$\frac{204284495236}{15015\pi} - \frac{17322881}{4}$
12	4	$\frac{1752224}{45045\pi} - \frac{247962453328}{4}$
12	5	$\frac{76580194772}{45045\pi} - \frac{2164609}{4}$
12	6	$\frac{125979}{45045\pi} - \frac{303068800546}{765765\pi}$
12	7	$\frac{52110160096}{765765\pi} - \frac{86641}{4}$
12	8	$\frac{2660}{4} - \frac{121553995064}{14549535\pi}$
12	9	$\frac{102008176}{146965\pi} - \frac{881}{4}$
12	10	$\frac{11}{4} - \frac{471035366}{14549535\pi}$
12	11	$\frac{208076}{69615\pi} - \frac{1}{4}$
12	12	$\frac{744355888}{334639305\pi}$
13	0	$\frac{306528145}{4} - \frac{834187107676}{3465\pi}$
13	1	$\frac{9645553031537}{45045\pi} - \frac{68160170}{4}$
13	2	$\frac{191747137}{4} - \frac{205566061346}{1365\pi}$
13	3	$\frac{3766091185469}{45045\pi} - \frac{26613032}{4}$
13	4	$\frac{46498945}{4} - \frac{109670112220}{3003\pi}$
13	5	$\frac{1911538672609}{153153\pi} - \frac{3972900}{4}$
13	6	$\frac{4211425}{4} - \frac{56286166394}{17017\pi}$
13	7	$\frac{9751619442347}{14549535\pi} - \frac{213342}{4}$
13	8	$\frac{129361}{4} - \frac{492733196684}{4849845\pi}$
13	9	$\frac{3598491271}{323323\pi} - \frac{3542}{4}$
13	10	$\frac{1057}{4} - \frac{803094154}{969969\pi}$
13	11	$\frac{2672107301}{66927861\pi} - \frac{12}{4}$
13	12	$\frac{245596}{168245\pi} + \frac{1}{4}$
13	13	$\frac{3788707301}{1673196525\pi}$
14	0	$\frac{429115441}{45045\pi} - \frac{60725430934858}{45045\pi}$

n	m	g(n,m)
14	1	$\frac{4192311747314}{3465\pi} - \frac{1540495553}{4}$
14	2	$\frac{278288368}{297146012518} - \frac{7876286631412}{9009\pi}$
14	3	$\frac{297146012518}{585\pi} - \frac{646731713}{4}$
14	4	$\frac{75332653}{67427666244886} - \frac{25889913753406}{109395\pi}$
14	5	$\frac{67427666244886}{765765\pi} - \frac{112112161}{4}$
14	6	$\frac{8271688}{7965386962226} - \frac{126029391732436}{4849845\pi}$
14	7	$\frac{7965386962226}{1322685\pi} - \frac{7667617}{4}$
14	8	$\frac{343585}{9211582778} - \frac{1744977323854}{1616615\pi}$
14	9	$\frac{9211582778}{62985\pi} - \frac{186209}{4}$
14	10	$\frac{4600}{329020917374} - \frac{537248346788}{37182145\pi}$
14	11	$\frac{329020917374}{334639305\pi} - \frac{1249}{4}$
14	12	$\frac{13}{1068226} - \frac{1265556086}{3280775\pi}$
14	13	$\frac{1068226}{348075\pi} - \frac{1}{4}$
14	14	$\frac{11552032628}{5019589575\pi}$
15	0	$\frac{9640310017}{4} - \frac{341057396769808}{45045\pi}$
15	1	$\frac{102820507306903}{15015\pi} - \frac{2179739192}{4}$
15	2	$\frac{6448094017}{4} - \frac{1169858196322}{231\pi}$
15	3	$\frac{2342546731335137}{765765\pi} - \frac{973739702}{4}$
15	4	$\frac{1917667377}{4} - \frac{34949803124552}{23205\pi}$
15	5	$\frac{2921451055037929}{4849845\pi} - \frac{191743602}{4}$
15	6	$\frac{247915361}{4} - \frac{2832972943759682}{14549535\pi}$
15	7	$\frac{734518378007591}{14549535\pi} - \frac{16069548}{4}$
15	8	$\frac{13221825}{4} - \frac{151088116274896}{14549535\pi}$
15	9	$\frac{16911686663377}{10140585\pi} - \frac{530852}{4}$
15	10	$\frac{260001}{4} - \frac{5256464093702}{25741485\pi}$
15	11	$\frac{30754334630801}{1673196525\pi} - \frac{5850}{4}$
15	12	$\frac{1457}{4} - \frac{146988880232}{128707425\pi}$
15	13	$\frac{21121043201}{456326325\pi} - \frac{14}{4}$
15	14	$\frac{6967582}{4542615\pi} + \frac{1}{4}$
15	15	$\frac{340028535787}{145568097675\pi}$
16	0	$\frac{13570672960}{1748525780020352} - \frac{640142399995264}{15015\pi}$
16	1	$\frac{1748525780020352}{45045\pi} - \frac{49423735553}{4}$
16	2	$\frac{9323284543}{1077895862990164} - \frac{4485845584709378}{153153\pi}$
16	3	$\frac{1077895862990164}{58905\pi} - \frac{23298864913}{4}$
16	4	$\frac{3007818028}{1064050663721020} - \frac{137483488767654808}{14549535\pi}$
16	5	$\frac{1064050663721020}{264537\pi} - \frac{5121368209}{4}$
16	6	$\frac{447456823}{530410483225496} - \frac{20452675142962798}{14549535\pi}$
16	7	$\frac{530410483225496}{1322685\pi} - \frac{510582337}{4}$
16	8	$\frac{29478640}{5726762207806984} - \frac{10330301581772896}{111546435\pi}$
16	9	$\frac{5726762207806984}{334639305\pi} - \frac{21789249}{4}$
16	10	$\frac{792103}{1387895707615022} - \frac{557732175\pi}{4}$

n	m	g(n,m)
16	11	$\frac{92990651093996}{334639305\pi} - \frac{353809}{4}$
16	12	$7308 - \frac{5010085678376}{218243025\pi}$
16	13	$\frac{737643129404}{557732175\pi} - \frac{1681}{4}$
16	14	$15 - \frac{6519545602358}{145568097675\pi}$
16	15	$\frac{31674704}{10094175\pi} - \frac{1}{4}$
16	16	$\frac{10686452707072}{4512611027925\pi}$
17	0	$\frac{306337928449}{4} - \frac{172027031162128}{715\pi}$
17	1	$\frac{168732397492037237}{765765\pi} - 70137953864$
17	2	$\frac{215447059137}{4} - \frac{43192138750866082}{255255\pi}$
17	3	$\frac{93181855532585891}{855855\pi} - 34656227782$
17	4	$\frac{74627654193}{4} - \frac{7288747804912408}{124355\pi}$
17	5	$\frac{127754318921376073}{4849845\pi} - 8384899458$
17	6	$\frac{12543344353}{4} - \frac{143335029448228066}{14549535\pi}$
17	7	$\frac{340427973121163467}{111546435\pi} - 971448252$
17	8	$\frac{990808001}{4} - \frac{20031477443908432}{25741485\pi}$
17	9	$\frac{24623911518738271}{152108775\pi} - 51529140$
17	10	$\frac{34556705}{4} - \frac{183853613845322}{6774075\pi}$
17	11	$\frac{1391805338529631}{386122275\pi} - 1147370$
17	12	$\frac{470961}{4} - \frac{371338774131224}{1003917915\pi}$
17	13	$\frac{373782591581437}{13233463425\pi} - 8990$
17	14	$\frac{1921}{4} - \frac{8771323850218}{5822723907\pi}$
17	15	$\frac{1218048249991}{23141595015\pi} - 16$
17	16	$\frac{225080272}{140821065\pi} + \frac{1}{4}$
17	17	$\frac{10823198495797}{4512611027925\pi}$
18	0	$433043163217 - \frac{148825904868981766}{109395\pi}$
18	1	$\frac{56413059902061194}{45045\pi} - \frac{1594568513857}{4}$
18	2	$310917956240 - \frac{14211659401052743436}{14549535\pi}$
18	3	$\frac{56877947272917506}{88179\pi} - \frac{821275492929}{4}$
18	4	$114660963405 - \frac{582333887194382278}{1616615\pi}$
18	5	$\frac{63349937517303502}{373065\pi} - \frac{216208021665}{4}$
18	6	$21452235240 - \frac{7517581035295759052}{111546435\pi}$
18	7	$\frac{1501611341855593250}{66927861\pi} - \frac{28566742049}{4}$
18	8	$1984306753 - \frac{10430512235213171866}{1673196525\pi}$
18	9	$\frac{2402276172259291618}{1673196525\pi} - \frac{1828041697}{4}$
18	10	$86441112 - \frac{1363133599588247356}{5019589575\pi}$
18	11	$\frac{209071239567170594}{5019589575\pi} - \frac{53031777}{4}$
18	12	$1620013 - \frac{105836711854528546}{20795442525\pi}$
18	13	$\frac{70317314518091714}{145568097675\pi} - \frac{615041}{4}$
18	14	$10912 - \frac{154686381160020964}{4512611027925\pi}$
18	15	$\frac{7726480713497786}{4512611027925\pi} - \frac{2177}{4}$
18	16	$17 - \frac{476559566638}{9342879975\pi}$

n	m	g(n,m)
18	17	$\frac{355151194}{111035925\pi} - \frac{1}{4}$
18	18	$\frac{10952130239452}{4512611027925\pi}$
19	0	$\frac{9811489710737}{4} - \frac{1966976140875643652}{255255\pi}$
19	1	$\frac{103685262589741673459}{14549535\pi} - 2268391679450$
19	2	$\frac{7175084247489}{4} - \frac{1607665987133505122}{285285\pi}$
19	3	$\frac{55408018041873777751}{14549535\pi} - 1212198184792$
19	4	$\frac{2797431274881}{4} - \frac{710372117978427452}{323323\pi}$
19	5	$\frac{120526795187211474947}{111546435\pi} - 343936320852$
19	6	$\frac{575467183201}{4} - \frac{2326880267823678010}{5148297\pi}$
19	7	$\frac{12773759159685306221}{79676025\pi} - 51031835790$
19	8	$\frac{61152883793}{4} - \frac{6181735586588289404}{128707425\pi}$
19	9	$\frac{2637799795313952149}{218243025\pi} - 3847260422$
19	10	$\frac{3229574561}{4} - \frac{848813241789243418}{334639305\pi}$
19	11	$\frac{63999284548206991163}{145568097675\pi} - 139945532$
19	12	$\frac{79096065}{4} - \frac{9042967071643810748}{145568097675\pi}$
19	13	$\frac{6342627998021363593}{90252205585\pi} - 2236976$
19	14	$\frac{789889}{4} - \frac{164677116437088578}{265447707525\pi}$
19	15	$\frac{665179078408423}{16174233075\pi} - 13090$
19	16	$\frac{2449}{4} - \frac{509931776072588}{265447707525\pi}$
19	17	$\frac{266137740652321}{4512611027925\pi} - 18$
19	18	$\frac{46625438}{28164213\pi} + \frac{1}{4}$
19	19	$\frac{409741429887649}{166966608033225\pi}$
20	0	$13915229906420 - \frac{12471514508854029896}{285285\pi}$
20	1	$\frac{565194485535235768}{13923\pi} - \frac{51686272315569}{4}$
20	2	$10344756155491 - \frac{472845482605797752662}{14549535\pi}$
20	3	$\frac{19188524795311865828}{855855\pi} - \frac{28546410986113}{4}$
20	4	$4238904817120 - \frac{4456362254306183832848}{334639305\pi}$
20	5	$\frac{455195801561945588308}{66927861\pi} - \frac{8659671570049}{4}$
20	6	$948983104603 - \frac{216883978382735155742}{72747675\pi}$
20	7	$\frac{1872054135535519006816}{1673196525\pi} - \frac{1424562697585}{4}$
20	8	$114047673252 - \frac{1798475437154528822776}{5019589575\pi}$
20	9	$\frac{97858127831177532176}{1003917915\pi} - \frac{124110583409}{4}$
20	10	$7130339403 - \frac{3260815914347837448542}{145568097675\pi}$
20	11	$\frac{69801199943927190556}{16174233075\pi} - \frac{5494767361}{4}$
20	12	$219658560 - \frac{183179547729171963664}{265447707525\pi}$
20	13	$\frac{27186947560717004516}{300840735195\pi} - \frac{115062529}{4}$
20	14	$3029043 - \frac{211337352165245174}{22229610975\pi}$
20	15	$\frac{393643687823782456}{501401225325\pi} - \frac{999601}{4}$
20	16	$15540 - \frac{220296283118852168}{4512611027925\pi}$
20	17	$\frac{170376963076568}{79168614525\pi} - \frac{2737}{4}$
20	18	$19 - \frac{382256946158314}{6678664321329\pi}$

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20	19	$\frac{13362666028}{4108329225\pi} - \frac{1}{4}$
20	20	$\frac{414022624965424}{166966608033225\pi}$