```
*******************************9-CAGE-13*****************************

Edges of 9-CAGE-13:

( 57   58)  ( 27   28)  (  5    6)  ( 26   27)  (  8   38)  ( 21   22)
( 50   51)  (  3   41)  ( 10   11)  ( 28   42)  ( 16   36)  ( 55   56)
( 52   53)  ( 24   25)  ( 49   50)  ( 14   22)  ( 13   14)  ( 33   34)
(  4   24)  ( 25   56)  (  6    7)  (  4    5)  ( 42   43)  ( 28   29)
(  6   45)  ( 35   36)  ( 26   37)  ( 13   47)  ( 43   44)  ( 11   12)
(  1    2)  ( 53   54)  ( 17   18)  (  5   17)  ( 22   23)  ( 15   16)
(  2    3)  (  3    4)  ( 31   55)  ( 23   51)  ( 38   39)  ( 20   43)
( 12   27)  ( 41   42)  ( 31   32)  ( 37   38)  ( 40   41)  ( 47   48)
( 19   20)  ( 29   50)  ( 58    1)  (  9   10)  ( 21   32)  ( 54   55)
( 25   26)  (  1    9)  ( 14   15)  ( 40   54)  ( 51   52)  ( 56   57)
( 30   31)  ( 46   47)  ( 20   21)  ( 44   45)  ( 34   35)  ( 12   13)
( 36   37)  ( 34   46)  ( 23   24)  (  7    8)  ( 29   30)  ( 11   53)
( 35   52)  ( 45   46)  (  2   33)  ( 18   49)  ( 16   17)  ( 18   19)
( 39   48)  ( 39   40)  ( 15   58)  ( 32   33)  (  7   30)  ( 44   57)
( 10   19)  (  8    9)  ( 48   49)
```

Chromatic polynomial relative the tree basis:

$$
\begin{aligned}
P(9-CAGE-13,x) = {} & \\
& +1x*(x-1)^{57} \\
& -30x*(x-1)^{56} \\
& +465x*(x-1)^{55} \\
& -4960x*(x-1)^{54} \\
& +40920x*(x-1)^{53} \\
& -278256x*(x-1)^{52} \\
& +1623160x*(x-1)^{51} \\
& -8347680x*(x-1)^{50} \\
& +38607925x*(x-1)^{49} \\
& -163008687x*(x-1)^{48} \\
& +635698075x*(x-1)^{47} \\
& -2311280483x*(x-1)^{46} \\
& +7894225096x*(x-1)^{45} \\
& -25487718600x*(x-1)^{44} \\
& +78192889464x*(x-1)^{43} \\
& -228928240773x*(x-1)^{42} \\
& +641956668447x*(x-1)^{41} \\
& -1729468908202x*(x-1)^{40} \\
& +4487806032410x*(x-1)^{39} \\
& -11240896599468x*(x-1)^{38} \\
& +27226171954820x*(x-1)^{37} \\
& -63859479125793x*(x-1)^{36} \\
& +145220636785078x*(x-1)^{35} \\
& -320475933435477x*(x-1)^{34} \\
& +686792096601745x*(x-1)^{33} \\
& -1429957211286463x*(x-1)^{32} \\
& +2893384806432352x*(x-1)^{31} \\
& -5689959229398964x*(x-1)^{30} \\
& +10873925605552595x*(x-1)^{29} \\
& -20188972956101200x*(x-1)^{28} \\
& +36399209472517787x*(x-1)^{27} \\
& -63685584838735315x*(x-1)^{26} \\
& +108044903591118114x*(x-1)^{25} \\
& -177558698608165750x*(x-1)^{24} \\
& +282311495636380126x*(x-1)^{23} \\
& -433657186249438167x*(x-1)^{22} \\
& +642508111648860590x*(x-1)^{21} \\
& -916426733214413974x*(x-1)^{20} \\
& +1255609151585927654x*(x-1)^{19} \\
& -1648392846501782071x*(x-1)^{18} \\
& +2067614170030300222x*(x-1)^{17} \\
& -2469728126648296485x*(x-1)^{16} \\
& +2798663206845287316x*(x-1)^{15} \\
& -2995474801204527795x*(x-1)^{14} \\
& +3012813988480413452x*(x-1)^{13} \\
& -2830501863671236149x*(x-1)^{12} \\
& +2466326318084314577x*(x-1)^{11} \\
& -1976202358919878596x*(x-1)^{10} \\
& +1441128940145281742x*(x-1)^{9} \\
& -944247100559213415x*(x-1)^{8} \\
& +546895008308914521x*(x-1)^{7} \\
& -274097735852030306x*(x-1)^{6} \\
& +115474459753053301x*(x-1)^{5} \\
& -39215651899456941x*(x-1)^{4} \\
& +10051520066044038x*(x-1)^{3} \\
& -1725630518606855x*(x-1)^{2} \\
& +148521267990862x*(x-1)^{1}
\end{aligned}
$$

Chromatic polynomial relative the standard basis:

$$
\begin{aligned}
P(9-Cage-13,x) = \\
-295972415415190337 10x \\
+417583938420615021917x^2 \\
-29654690857010959810 01x^3 \\
+14146403719752883339197x^4 \\
-51030599371741338170099x^5 \\
+14854013322443399543699 7x^6 \\
-36348775833192831032418 8x^7 \\
+76912793284319808325740 3x^8 \\
-14363154003132011642767 6x^9 \\
+24040535075970842765454 66x^{10} \\
-36498905992795140790218 73x^{11} \\
+50742480012700830266127 53x^{12} \\
-65091473642938934812431 57x^{13} \\
+77520679668452937743886 66x^{14} \\
-86147014796159739765139 07x^{15} \\
+89698208649823124369307 61x^{16} \\
-87804168754623665844448 62x^{17} \\
+81027317487042645806889 03x^{18} \\
-70648499697227090583377 13x^{19} \\
+58305150187101890590038 94x^{20} \\
-45609499571557039995881 23x^{21} \\
+33854543336733589153806 46x^{22} \\
-23863600517235034316932 06x^{23} \\
+15982574336084502408594 93x^{24} \\
-10173872964696271133929 80x^{25} \\
+61560837618206048586247 7x^{26} \\
-35405608299230768008188 4x^{27} \\
+19350264461316484731015 1x^{28} \\
-10045675632112336054400 7x^{29} \\
+49512453142536725060537x^{30} \\
-23152403318487840531288x^{31} \\
+10262799071761403813850x^{32} \\
-43082759333566868356 74x^{33} \\
+17109027706107465946 74x^{34} \\
-64191991198093608856 7x^{35} \\
+22722105943234005065 8x^{36} \\
-75758262718912577756x^{37} \\
+23748806335156275160x^{38} \\
-6985634695449042017x^{39} \\
+1923698874989695290x^{40} \\
-494683713468843585x^{41} \\
+118447930587839091x^{42} \\
-26322074113735199x^{43} \\
+5408678993476917x^{44} \\
-1023266724732660x^{45} \\
+177366478920531x^{46} \\
-28005249490274x^{47} \\
+4000750744441x^{48} \\
-512916793062x^{49} \\
+58433559475x^{50} \\
-5843355957x^{51} \\
+504981379x^{52} \\
-36949857x^{53} \\
+2225895x^{54} \\
-105995x^{55} \\
+3741x^{56} \\
-87x^{57} \\
+1x^{58}
\end{aligned}
$$

Roots of the chromatic polynomial of 9-CAGE-13:

$$
\begin{array}{ll}
x->0. & x->1.63218+1.68601I \\
x->1. & x->1.78457-1.61494I \\
x->2. & x->1.78457+1.61494I \\
x->2.68336 & x->1.92835-1.53299I \\
x->-0.666581-1.15089I & x->1.92835+1.53299I \\
x->-0.666581+1.15089I & x->2.05691-1.44856I \\
x->-0.413131-1.39104I & x->2.05691+1.44856I \\
x->-0.413131+1.39104I & x->2.167-1.36736I \\
x->-0.17941-1.53711I & x->2.167+1.36736I \\
x->-0.17941+1.53711I & x->2.24773-1.27392I \\
x->0.0380227-1.64595I & x->2.24773+1.27392I \\
x->0.0380227+1.64595I & x->2.3222-1.15667I \\
x->0.245633-1.73543I & x->2.3222+1.15667I \\
x->0.245633+1.73543I & x->2.39644-1.03009I \\
x->0.447459-1.81328I & x->2.39644+1.03009I \\
x->0.447459+1.81328I & x->2.46667-0.897569I \\
x->0.644242-1.87088I & x->2.46667+0.897569I \\
x->0.644242+1.87088I & x->2.52965-0.761711I \\
x->0.829554-1.89635I & x->2.52965+0.761711I \\
x->0.829554+1.89635I & x->2.5841-0.627396I \\
x->0.996727-1.88365I & x->2.5841+0.627396I \\
x->0.996727+1.88365I & x->2.62798-0.496938I \\
x->1.16065-1.84969I & x->2.62798+0.496938I \\
x->1.16065+1.84969I & x->2.6578-0.370092I \\
x->1.32019-1.80343I & x->2.6578+0.370092I \\
x->1.32019+1.80343I & x->2.6745-0.245359I \\
x->1.47726-1.74852I & x->2.6745+0.245359I \\
x->1.47726+1.74852I & x->2.68164-0.122129I \\
x->1.63218-1.68601I & x->2.68164+0.122129I
\end{array}
$$