```
**************************9-CAGE-17************************
Edges of 9-CAGE-17:

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

Chromatic polynomial relative the tree basis:

$$
\begin{aligned}
P(9-CAGE-17,x) = {} & \\
& +1x*(x-1)^{57} \\
& -30x*(x-1)^{56} \\
& +465x*(x-1)^{55} \\
& -4960x*(x-1)^{54} \\
& +40920x*(x-1)^{53} \\
& -278256x*(x-1)^{52} \\
& +1623160x*(x-1)^{51} \\
& -8347680x*(x-1)^{50} \\
& +38607950x*(x-1)^{49} \\
& -163009417x*(x-1)^{48} \\
& +635709027x*(x-1)^{47} \\
& -2311393022x*(x-1)^{46} \\
& +7895115715x*(x-1)^{45} \\
& -25493504960x*(x-1)^{44} \\
& +78225014849x*(x-1)^{43} \\
& -229084882379x*(x-1)^{42} \\
& +642640852266x*(x-1)^{41} \\
& -1732186024401x*(x-1)^{40} \\
& +4497730782110x*(x-1)^{39} \\
& -11274545405778x*(x-1)^{38} \\
& +27332842882453x*(x-1)^{37} \\
& -64177563742743x*(x-1)^{36} \\
& +146117212548112x*(x-1)^{35} \\
& -322874392316499x*(x-1)^{34} \\
& +692901875130335x*(x-1)^{33} \\
& -1444818569823571x*(x-1)^{32} \\
& +2927979333995109x*(x-1)^{31} \\
& -5767167186109882x*(x-1)^{30} \\
& +11039368844483351x*(x-1)^{29} \\
& -20529732809313765x*(x-1)^{28} \\
& +37074368539822924x*(x-1)^{27} \\
& -64973068361026986x*(x-1)^{26} \\
& +110408389010544513x*(x-1)^{25} \\
& -181735241393639910x*(x-1)^{24} \\
& +289413618889452139x*(x-1)^{23} \\
& -445271509838140945x*(x-1)^{22} \\
& +660756582507790810x*(x-1)^{21} \\
& -943939439522977612x*(x-1)^{20} \\
& +1295346966946807091x*(x-1)^{19} \\
& -1703265290304368471x*(x-1)^{18} \\
& +2139875665680781690x*(x-1)^{17} \\
& -2560211303171786055x*(x-1)^{16} \\
& +2906011883342035391x*(x-1)^{15} \\
& -3115637454118480986x*(x-1)^{14} \\
& +3139092491859934441x*(x-1)^{13} \\
& -2954358903785203356x*(x-1)^{12} \\
& +2578915769226426051x*(x-1)^{11} \\
& -2070260585934253825x*(x-1)^{10} \\
& +1512603477441470353x*(x-1)^{9} \\
& -993024359090143950x*(x-1)^{8} \\
& +576308796949056552x*(x-1)^{7} \\
& -289441262244541150x*(x-1)^{6} \\
& +122200354424557422x*(x-1)^{5} \\
& -41591604757162057x*(x-1)^{4} \\
& +10684765834763472x*(x-1)^{3} \\
& -1838623992420718x*(x-1)^{2} \\
& +158622898074692x*(x-1)^{1}
\end{aligned}
$$

Chromatic polynomial relative the standard basis:

$$
\begin{aligned}
P(9-Cage-17,x) = \\
-307873813616566067 28x \\
+433560930509123775242x^2 \\
-3073186191451466070835x^3 \\
+14633085521374878374090x^4 \\
-5268905139261808851346 7x^5 \\
+153087082489493169487621x^6 \\
-3739334403902729205608 36x^7 \\
+789800400219498707740855x^8 \\
-1472269911430269567235945x^9 \\
+24598350631254992445518 67x^{10} \\
-3727974359374851209429661x^{11} \\
+51737497827981282540500 41x^{12} \\
-6625387817959217429045407x^{13} \\
+78772598590135375364730 66x^{14} \\
-8739565913964490966487759x^{15} \\
+90855677489166645623853 41x^{16} \\
-8880425671367322002877104x^{17} \\
+81834583245714136147005 45x^{18} \\
-7125834250339030421362308x^{19} \\
+58736898247990328950957 76x^{20} \\
-4589623486939679846020652x^{21} \\
+34033297144825476386366 24x^{22} \\
-2396824352669496925304150x^{23} \\
+16040103259230645780266 41x^{24} \\
-1020357007563362815093825x^{25} \\
+61704724202872693248219 6x^{26} \\
-3547100090206796895270 69x^{27} \\
+19378116775058492321729 5x^{28} \\
-1005678108715801933865 29x^{29} \\
+49553849630341783665780x^{30} \\
-2316680578471676880563 9x^{31} \\
+10267467011739254399303x^{32} \\
-4309682171055985998901x^{33} \\
+17112955159254457604 77x^{34} \\
-6420212976666574167 59x^{35} \\
+22724516633089112315 7x^{36} \\
-7576352099417304146 3x^{37} \\
+23749853517761932668x^{38} \\
-6985824039779471702x^{39} \\
+19237297529335256 40x^{40} \\
-494688218937527554x^{41} \\
+11844851307738087 4x^{42} \\
-26322140033643533x^{43} \\
+5408685423287772x^{44}
\end{aligned}
\qquad
\begin{aligned}
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\\
-1023267254376920x^{45} \\
+177366514750036x^{46} \\
-28005251401597x^{47} \\
+4000750819833x^{48} \\
-512916795017x^{49} \\
+58433559500x^{50} \\
-5843355957x^{51} \\
+504981379x^{52} \\
-36949857x^{53} \\
+2225895x^{54} \\
-105995x^{55} \\
+3741x^{56} \\
-87x^{57} \\
+1x^{58}
\end{aligned}
$$

Roots of the chromatic polynomial of 9-CAGE-17:

$x- > 0.$
$x- > 1.$
$x- > 2.$
$x- > 2.68881$
$x- > -0.67843 - 1.15469I$
$x- > -0.67843 + 1.15469I$
$x- > -0.411638 - 1.38299I$
$x- > -0.411638 + 1.38299I$
$x- > -0.177781 - 1.53213I$
$x- > -0.177781 + 1.53213I$
$x- > 0.038882 - 1.648I$
$x- > 0.038882 + 1.648I$
$x- > 0.245502 - 1.74586I$
$x- > 0.245502 + 1.74586I$
$x- > 0.445104 - 1.8243I$
$x- > 0.445104 + 1.8243I$
$x- > 0.638881 - 1.87597I$
$x- > 0.638881 + 1.87597I$
$x- > 0.819727 - 1.88737I$
$x- > 0.819727 + 1.88737I$
$x- > 0.994625 - 1.87455I$
$x- > 0.994625 + 1.87455I$
$x- > 1.16172 - 1.84542I$
$x- > 1.16172 + 1.84542I$
$x- > 1.32361 - 1.80465I$
$x- > 1.32361 + 1.80465I$
$x- > 1.48108 - 1.75322I$
$x- > 1.48108 + 1.75322I$
$x- > 1.63903 - 1.69265I$
$x- > 1.63903 + 1.69265I$
$x- > 1.79066 - 1.62058I$
$x- > 1.79066 + 1.62058I$
$x- > 1.92649 - 1.54957I$
$x- > 1.92649 + 1.54957I$
$x- > 2.04312 - 1.46546I$
$x- > 2.04312 + 1.46546I$
$x- > 2.14886 - 1.36587I$
$x- > 2.14886 + 1.36587I$
$x- > 2.24577 - 1.25678I$
$x- > 2.24577 + 1.25678I$
$x- > 2.33362 - 1.14314I$
$x- > 2.33362 + 1.14314I$
$x- > 2.41049 - 1.02471I$
$x- > 2.41049 + 1.02471I$
$x- > 2.47705 - 0.901002I$
$x- > 2.47705 + 0.901002I$
$x- > 2.535 - 0.77121I$
$x- > 2.535 + 0.77121I$
$x- > 2.58469 - 0.638273I$
$x- > 2.58469 + 0.638273I$
$x- > 2.62459 - 0.504712I$
$x- > 2.62459 + 0.504712I$
$x- > 2.65466 - 0.373104I$
$x- > 2.65466 + 0.373104I$
$x- > 2.6746 - 0.244685I$
$x- > 2.6746 + 0.244685I$
$x- > 2.68567 - 0.120813I$
$x- > 2.68567 + 0.120813I$