**********9-CAGE-6**********

Edges of 9-CAGE-6:

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

Chromatic polynomial relative the tree basis:

$$
\begin{aligned}
P(9-CAGE-6,x) = {} & \\
& +1x*(x-1)^{57} \\
& -30x*(x-1)^{56} \\
& +465x*(x-1)^{55} \\
& -4960x*(x-1)^{54} \\
& +40920x*(x-1)^{53} \\
& -278256x*(x-1)^{52} \\
& +1623160x*(x-1)^{51} \\
& -8347680x*(x-1)^{50} \\
& +38607934x*(x-1)^{49} \\
& -163008943x*(x-1)^{48} \\
& +635701826x*(x-1)^{47} \\
& -2311318211x*(x-1)^{46} \\
& +7894517937x*(x-1)^{45} \\
& -25489588104x*(x-1)^{44} \\
& +78203105785x*(x-1)^{43} \\
& -228977350693x*(x-1)^{42} \\
& +642168449940x*(x-1)^{41} \\
& -1730300402071x*(x-1)^{40} \\
& +4490812336516x*(x-1)^{39} \\
& -11250996490697x*(x-1)^{38} \\
& +27257929242579x*(x-1)^{37} \\
& -63953484910414x*(x-1)^{36} \\
& +145483862661050x*(x-1)^{35} \\
& -321175893438829x*(x-1)^{34} \\
& +688565445762518x*(x-1)^{33} \\
& -1434249083867695x*(x-1)^{32} \\
& +2903329116365076x*(x-1)^{31} \\
& -5712056567043391x*(x-1)^{30} \\
& +10921082597283923x*(x-1)^{29} \\
& -20285723742097531x*(x-1)^{28} \\
& +36590193355631409x*(x-1)^{27} \\
& -64048480935077167x*(x-1)^{26} \\
& +108708804126102713x*(x-1)^{25} \\
& -178728019666381085x*(x-1)^{24} \\
& +284293617175913358x*(x-1)^{23} \\
& -436888833043651097x*(x-1)^{22} \\
& +647571175915793695x*(x-1)^{21} \\
& -924039707355193153x*(x-1)^{20} \\
& +1266577589784657331x*(x-1)^{19} \\
& -1663504387102855187x*(x-1)^{18} \\
& +2087474002347059192x*(x-1)^{17} \\
& -2494551184336502485x*(x-1)^{16} \\
& +2828067310136408020x*(x-1)^{15} \\
& -3028345232014775562x*(x-1)^{14} \\
& +3047318945849779064x*(x-1)^{13} \\
& -2864313474659561347x*(x-1)^{12} \\
& +2497037264151662373x*(x-1)^{11} \\
& -2001839866740158162x*(x-1)^{10} \\
& +1460596874403024630x*(x-1)^{9} \\
& -957522650628789927x*(x-1)^{8} \\
& +554893374183811967x*(x-1)^{7} \\
& -278265595921850587x*(x-1)^{6} \\
& +117299098874445697x*(x-1)^{5} \\
& -39859214692378279x*(x-1)^{4} \\
& +10222731555702583x*(x-1)^{3} \\
& -1756116806649005x*(x-1)^{2} \\
& +151240356278886x*(x-1)^{1}
\end{aligned}
$$

Chromatic polynomial relative the standard basis:

$$
\begin{aligned}
P(9-Cage-6,x) = {} & \\
& -29922986321843941096x \\
& +4219633693809850463 14x^2 \\
& -2995044771948243745909x^3 \\
& +1428028343643078978 5405x^4 \\
& -5148777982052781393 3378x^5 \\
& +1497964951604657203 52331x^6 \\
& -3663813150313189369 49975x^7 \\
& +7748700463182233169 52154x^8 \\
& -1446331357448342214 993566x^9 \\
& +2419640269367721320 265441x^{10} \\
& -3671778828472760099 763707x^{11} \\
& +5102232464910241272 518763x^{12} \\
& -6541951320087073396 407930x^{13} \\
& +7787522478602780151 418156x^{14} \\
& -8650191244083718179 482792x^{15} \\
& +9002841573279620359 153884x^{16} \\
& -8809056957888509221 751810x^{17} \\
& +8125941034882371077 107441x^{18} \\
& -7082454620568782185 788055x^{19} \\
& +5843030994471138420 587131x^{20} \\
& -3894350121607424653 61175x^{23} \\
& +1599956220539527304 935187x^{24} \\
& -1018268705195778847 122984x^{25} \\
& +6160376998701065791 49236x^{26} \\
& -3542522782676430829 38571x^{27} \\
& +1935866897903952502 73989x^{28} \\
& -1004904677495038642 45063x^{29} \\
& +4952509735891936173 8451x^{30} \\
& -2315683074326274818 9421x^{31} \\
& +1026424358987876535 6292x^{32} \\
& -4308714096630192051 524x^{33} \\
& +1711026013507998326 795x^{34} \\
& -6419519593880702768 64x^{35} \\
& +2272287367917572365 46x^{36} \\
& -7575995025838659110 1x^{37} \\
& +2374914506671577053 1x^{38} \\
& -6985696438390187733x^{39} \\
& +1923709027207343567x^{40} \\
& -4946852073036052 22x^{41} \\
& +1184481253794191 19x^{42} \\
& -2632209635117269 3x^{43} \\
& +5408681181826327x^{44}
\end{aligned}
\qquad
\begin{aligned}
& -1023266906625390x^{45} \\
& +177366491338351x^{46} \\
& -28005250158883x^{47} \\
& +4000750771064x^{48} \\
& -512916793759x^{49} \\
& +58433559484x^{50} \\
& -5843355957x^{51} \\
& +504981379x^{52} \\
& -36949857x^{53} \\
& +2225895x^{54} \\
& -105995x^{55} \\
& +3741x^{56} \\
& -87x^{57} \\
& +1x^{58}
\end{aligned}
$$

Roots of the chromatic polynomial of 9-CAGE-6:

$x- > 0.$
$x- > 1.$
$x- > 2.$
$x- > 2.68293$
$x- > -0.669852 - 1.15218I$
$x- > -0.669852 + 1.15218I$
$x- > -0.412723 - 1.38893I$
$x- > -0.412723 + 1.38893I$
$x- > -0.17911 - 1.53553I$
$x- > -0.17911 + 1.53553I$
$x- > 0.0381708 - 1.64601I$
$x- > 0.0381708 + 1.64601I$
$x- > 0.245692 - 1.73753I$
$x- > 0.245692 + 1.73753I$
$x- > 0.447463 - 1.81577I$
$x- > 0.447463 + 1.81577I$
$x- > 0.643799 - 1.87542I$
$x- > 0.643799 + 1.87542I$
$x- > 0.825283 - 1.89467I$
$x- > 0.825283 + 1.89467I$
$x- > 0.994845 - 1.87996I$
$x- > 0.994845 + 1.87996I$
$x- > 1.15995 - 1.84714I$
$x- > 1.15995 + 1.84714I$
$x- > 1.32126 - 1.80288I$
$x- > 1.32126 + 1.80288I$
$x- > 1.48011 - 1.74991I$
$x- > 1.48011 + 1.74991I$
$x- > 1.63569 - 1.68855I$
$x- > 1.63569 + 1.68855I$
$x- > 1.78699 - 1.61744I$
$x- > 1.78699 + 1.61744I$
$x- > 1.92847 - 1.53508I$
$x- > 1.92847 + 1.53508I$
$x- > 2.05523 - 1.4558I$
$x- > 2.05523 + 1.4558I$
$x- > 2.15734 - 1.36943I$
$x- > 2.15734 + 1.36943I$
$x- > 2.24436 - 1.26814I$
$x- > 2.24436 + 1.26814I$
$x- > 2.32399 - 1.1525I$
$x- > 2.32399 + 1.1525I$
$x- > 2.4002 - 1.02698I$
$x- > 2.4002 + 1.02698I$
$x- > 2.47135 - 0.895991I$
$x- > 2.47135 + 0.895991I$
$x- > 2.53438 - 0.763275I$
$x- > 2.53438 + 0.763275I$
$x- > 2.58695 - 0.631207I$
$x- > 2.58695 + 0.631207I$
$x- > 2.62772 - 0.500772I$
$x- > 2.62772 + 0.500772I$
$x- > 2.65647 - 0.372448I$
$x- > 2.65647 + 0.372448I$
$x- > 2.67348 - 0.246732I$
$x- > 2.67348 + 0.246732I$
$x- > 2.68103 - 0.122826I$
$x- > 2.68103 + 0.122826I$