**********9-CAGE-8**********

Edges of 9-CAGE-8:

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

Chromatic polynomial relative the tree basis:

$$
\begin{aligned}
P(9-CAGE-8,x) = {} & \\
& +1x*(x-1)^{57} \\
& -30x*(x-1)^{56} \\
& +465x*(x-1)^{55} \\
& -4960x*(x-1)^{54} \\
& +40920x*(x-1)^{53} \\
& -278256x*(x-1)^{52} \\
& +1623160x*(x-1)^{51} \\
& -8347680x*(x-1)^{50} \\
& +38607925x*(x-1)^{49} \\
& -163008696x*(x-1)^{48} \\
& +635698329x*(x-1)^{47} \\
& -2311284166x*(x-1)^{46} \\
& +7894261678x*(x-1)^{45} \\
& -25487998530x*(x-1)^{44} \\
& +78194648827x*(x-1)^{43} \\
& -228937694986x*(x-1)^{42} \\
& +642001311258x*(x-1)^{41} \\
& -1729657840095x*(x-1)^{40} \\
& +4488533328193x*(x-1)^{39} \\
& -11243472476898x*(x-1)^{38} \\
& +27234641411369x*(x-1)^{37} \\
& -63885518759785x*(x-1)^{36} \\
& +145295938678871x*(x-1)^{35} \\
& -320681735996801x*(x-1)^{34} \\
& +687325780576822x*(x-1)^{33} \\
& -1431274622959100x*(x-1)^{32} \\
& +2896488865232801x*(x-1)^{31} \\
& -5696955497342868x*(x-1)^{30} \\
& +10889037060361097x*(x-1)^{29} \\
& -20220295993555966x*(x-1)^{28} \\
& +36461583999288928x*(x-1)^{27} \\
& -63805002189607383x*(x-1)^{26} \\
& +108264812611646311x*(x-1)^{25} \\
& -177948282796112772x*(x-1)^{24} \\
& +282975354116972277x*(x-1)^{23} \\
& -434744761660522614x*(x-1)^{22} \\
& +644219699658345130x*(x-1)^{21} \\
& -919011275531670135x*(x-1)^{20} \\
& +1259347942265927424x*(x-1)^{19} \\
& -1653563860446779094x*(x-1)^{18} \\
& +2074435191119957780x*(x-1)^{17} \\
& -2478283937287845678x*(x-1)^{16} \\
& +2808832011230482462x*(x-1)^{15} \\
& -3006878580823423816x*(x-1)^{14} \\
& +3024821069645063994x*(x-1)^{13} \\
& -2842301681388101297x*(x-1)^{12} \\
& +2477073865767668953x*(x-1)^{11} \\
& -1985198650379126768x*(x-1)^{10} \\
& +1447978310729916070x*(x-1)^{9} \\
& -948929801713900621x*(x-1)^{8} \\
& +549723249116936975x*(x-1)^{7} \\
& -275574921605286770x*(x-1)^{6} \\
& +116122513489443478x*(x-1)^{5} \\
& -39444637484830094x*(x-1)^{4} \\
& +10112526055784752x*(x-1)^{3} \\
& -1736504324120393x*(x-1)^{2} \\
& +149491645660002x*(x-1)^{1}
\end{aligned}
$$

Chromatic polynomial relative the standard basis:

$$
\begin{aligned}
P(9-Cage-8,x) = {} & \\
-297103364420777525 04x & \\
+419099251989880568076x^{2} & \\
-2975665456160453807606x^{3} & \\
+14192382170614645115305x^{4} & \\
-5118696903895396004 1897x^{5} & \\
+14896798395792921829 8230x^{6} & \\
-3644685946423124102 22572x^{7} & \\
+7710647116057645407 32638x^{8} & \\
-1439675698243438981 657613x^{9} & \\
+2409252537423645543240019x^{10} & \\
-3657145420279347177269503x^{11} & \\
+5083459077869120992741792x^{12} & \\
-6519862044484471109624174x^{13} & \\
+7763549970065668670396205x^{14} & \\
-8626086278278203672514328x^{15} & \\
+8980302190668465034811682x^{16} & -1023266736340515x^{45} \\
-8789401336178841314365063x^{17} & +177366479556769x^{46} \\
+8109917919050062541386799x^{18} & -28005249516047x^{47} \\
-7070222293546786400422806x^{19} & +4000750745127x^{48} \\
+5834273669209704772346367x^{20} & -512916793071x^{49} \\
-4563413120227189498115067x^{21} & +58433559475x^{50} \\
+3386967165952849345039794x^{22} & -5843355957x^{51} \\
-2387231098936597510487079x^{23} & +504981379x^{52} \\
+1598727592141323232985301x^{24} & -36949857x^{53} \\
-1017625136499038381791277x^{25} & +2225895x^{54} \\
+615721080687797088590872x^{26} & -105995x^{55} \\
-354106073024221180039596x^{27} & +3741x^{56} \\
+193523378102518650838539x^{28} & -87x^{57} \\
-100464787073865921609568x^{29} & +1x^{58} \\
+49515353579114440986876x^{30} & \\
-23153378292215967697965x^{31} & \\
+10263103441674736033059x^{32} & \\
-4308363954502926955335x^{33} & \\
+1710926281216062033536x^{34} & \\
-641925692082301839502x^{35} & \\
+227222362164865717283x^{36} & \\
-75758530620847583189x^{37} & \\
+23748856324982466334x^{38} & \\
-6985643103530631687x^{39} & \\
+1923700139605089173x^{40} & \\
-494683881904248142x^{41} & \\
+118447950214683819x^{42} & \\
-26322076083828850x^{43} & \\
+5408679160392766x^{44} &
\end{aligned}
$$

Roots of the chromatic polynomial of 9-CAGE-8:

$x- > 0.$
$x- > 1.$
$x- > 2.$
$x- > 2.68396$
$x- > -0.66794 - 1.15129I$
$x- > -0.66794 + 1.15129I$
$x- > -0.412464 - 1.38969I$
$x- > -0.412464 + 1.38969I$
$x- > -0.179131 - 1.53695I$
$x- > -0.179131 + 1.53695I$
$x- > 0.0380055 - 1.6469I$
$x- > 0.0380055 + 1.6469I$
$x- > 0.245368 - 1.73684I$
$x- > 0.245368 + 1.73684I$
$x- > 0.446953 - 1.8134I$
$x- > 0.446953 + 1.8134I$
$x- > 0.643706 - 1.87249I$
$x- > 0.643706 + 1.87249I$
$x- > 0.825975 - 1.89119I$
$x- > 0.825975 + 1.89119I$
$x- > 0.999234 - 1.88225I$
$x- > 0.999234 + 1.88225I$
$x- > 1.16294 - 1.8517I$
$x- > 1.16294 + 1.8517I$
$x- > 1.32098 - 1.80647I$
$x- > 1.32098 + 1.80647I$
$x- > 1.47748 - 1.75084I$
$x- > 1.47748 + 1.75084I$
$x- > 1.63057 - 1.68703I$
$x- > 1.63057 + 1.68703I$
$x- > 1.78185 - 1.61438I$
$x- > 1.78185 + 1.61438I$
$x- > 1.9257 - 1.53223I$
$x- > 1.9257 + 1.53223I$
$x- > 2.05692 - 1.44637I$
$x- > 2.05692 + 1.44637I$
$x- > 2.17054 - 1.363I$
$x- > 2.17054 + 1.363I$
$x- > 2.25298 - 1.27595I$
$x- > 2.25298 + 1.27595I$
$x- > 2.32257 - 1.1599I$
$x- > 2.32257 + 1.1599I$
$x- > 2.39502 - 1.0324I$
$x- > 2.39502 + 1.0324I$
$x- > 2.46475 - 0.899323I$
$x- > 2.46475 + 0.899323I$
$x- > 2.52771 - 0.761942I$
$x- > 2.52771 + 0.761942I$
$x- > 2.58293 - 0.6261I$
$x- > 2.58293 + 0.6261I$
$x- > 2.62876 - 0.495344I$
$x- > 2.62876 + 0.495344I$
$x- > 2.65919 - 0.36928I$
$x- > 2.65919 + 0.36928I$
$x- > 2.67521 - 0.244556I$
$x- > 2.67521 + 0.244556I$
$x- > 2.68223 - 0.121566I$
$x- > 2.68223 + 0.121566I$