```
******************************9-CAGE-7******************************

Edges of 9-CAGE-7:

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

Chromatic polynomial relative the tree basis:

$$
\begin{aligned}
P(9-CAGE-7,x) = {} & \\
& +1x*(x-1)^{57} \\
& -30x*(x-1)^{56} \\
& +465x*(x-1)^{55} \\
& -4960x*(x-1)^{54} \\
& +40920x*(x-1)^{53} \\
& -278256x*(x-1)^{52} \\
& +1623160x*(x-1)^{51} \\
& -8347680x*(x-1)^{50} \\
& +38607927x*(x-1)^{49} \\
& -163008746x*(x-1)^{48} \\
& +635698965x*(x-1)^{47} \\
& -2311289642x*(x-1)^{46} \\
& +7894297456x*(x-1)^{45} \\
& -25488186763x*(x-1)^{44} \\
& +78195473094x*(x-1)^{43} \\
& -228940747156x*(x-1)^{42} \\
& +642010856109x*(x-1)^{41} \\
& -1729682294973x*(x-1)^{40} \\
& +4488578835962x*(x-1)^{39} \\
& -11243494743482x*(x-1)^{38} \\
& +27234341585188x*(x-1)^{37} \\
& -63883651574408x*(x-1)^{36} \\
& +145288270899226x*(x-1)^{35} \\
& -320655612045385x*(x-1)^{34} \\
& +687246826640804x*(x-1)^{33} \\
& -1431056511729145x*(x-1)^{32} \\
& +2895928957606915x*(x-1)^{31} \\
& -5695606039013158x*(x-1)^{30} \\
& +10885962195380052x*(x-1)^{29} \\
& -20213639323733990x*(x-1)^{28} \\
& +36447843269071890x*(x-1)^{27} \\
& -63777886557828597x*(x-1)^{26} \\
& +108213562888568988x*(x-1)^{25} \\
& -177855396469789322x*(x-1)^{24} \\
& +282813814845107489x*(x-1)^{23} \\
& -434475164982970769x*(x-1)^{22} \\
& +643788102165135813x*(x-1)^{21} \\
& -918349110424542106x*(x-1)^{20} \\
& +1258375754595691908x*(x-1)^{19} \\
& -1652200589726604628x*(x-1)^{18} \\
& +2072613854646251231x*(x-1)^{17} \\
& -2475972553001205936x*(x-1)^{16} \\
& +2806055610205912834x*(x-1)^{15} \\
& -3003735137165579243x*(x-1)^{14} \\
& +3021482832459501889x*(x-1)^{13} \\
& -2838995586647059011x*(x-1)^{12} \\
& +2474041189518244770x*(x-1)^{11} \\
& -1982643220321789498x*(x-1)^{10} \\
& +1446020218100361005x*(x-1)^{9} \\
& -947582581545397136x*(x-1)^{8} \\
& +548904310551749609x*(x-1)^{7} \\
& -257144375663782083x*(x-1)^{6} \\
& +115932367294146534x*(x-1)^{5} \\
& -39377002909394876x*(x-1)^{4} \\
& +10094390690791175x*(x-1)^{3} \\
& -1733252447504716x*(x-1)^{2} \\
& +149199912364316x*(x-1)^{1}
\end{aligned}
$$

Chromatic polynomial relative the standard basis:

$$
\begin{aligned}
P(9-Cage-7,x) = {} & \\
&-29679159858180891390x \\
&+4186857754696549897 49x^2 \\
&-2972914355063462083059x^3 \\
&+1418012932545126142 4520x^4 \\
&-5114586099984337393 6768x^5 \\
&+1488571717789694606 11745x^6 \\
&-3642186787170123522 01894x^7 \\
&+7705799842787194987 13163x^8 \\
&-1438851092659274638 961409x^9 \\
&+2408004137897801046 946324x^{10} \\
&-3655444932423311525 550118x^{11} \\
&+5081357628154081275 848980x^{12} \\
&-6517491032252273646 094122x^{13} \\
&+7761095969058913916 448125x^{14} \\
&-8623748337442891348 578417x^{15} \\
&+8978247182896885816 414892x^{16} \\
&-8787732677304959693 347845x^{17} \\
&+8108665942145137267 742211x^{18} \\
&-7069355142099403170 652865x^{19} \\
&+5833720545031094589 612157x^{20} \\
&-4563089652196058772 763695x^{21} \\
&+3386795096601916911 075774x^{22} \\
&-2387149008776281188 203748x^{23} \\
&+1598693438005088935 220081x^{24} \\
&-1017613546226484632 369439x^{25} \\
&+6157185713097453749 46930x^{26} \\
&-3541064246138024255 88636x^{27} \\
&+1935241968652420006 71295x^{28} \\
&-1004653933347040797 91277x^{29} \\
&+4951568859769261846 6409x^{30} \\
&-2315353438230548320 4585x^{31} \\
&+1026316734652384807 2289x^{32} \\
&-4308387363851635571 489x^{33} \\
&+1710934019972524453 033x^{34} \\
&-6419280096858547716 41x^{35} \\
&+2272229915637966193 82x^{36} \\
&-7575868547374961759 1x^{37} \\
&+2374889075475473320 4x^{38} \\
&-6985649994376929492x^{39} \\
&+1923701374440864068x^{40} \\
&-494684078653205989x^{41} \\
&+118447977839188937x^{42} \\
&-26322079462645771x^{43} \\
&+5408679515068157x^{44} \\
&-1023266767661926x^{45} \\
&+177366481820511x^{46} \\
&-28005249644663x^{47} \\
&+4000750750515x^{48} \\
&-512916793219x^{49} \\
&+58433559477x^{50} \\
&-5843355957x^{51} \\
&+504981379x^{52} \\
&-36949857x^{53} \\
&+2225895x^{54} \\
&-105995x^{55} \\
&+3741x^{56} \\
&-87x^{57} \\
&+1x^{58}
\end{aligned}
$$

Roots of the chromatic polynomial of 9-CAGE-7:

$$
\begin{aligned}
&x->0.\\
&x->1.\\
&x->2.\\
&x->2.68379\\
&x->-0.667407-1.15124I\\
&x->-0.667407+1.15124I\\
&x->-0.413084-1.39057I\\
&x->-0.413084+1.39057I\\
&x->-0.179336-1.53659I\\
&x->-0.179336+1.53659I\\
&x->0.0382057-1.64579I\\
&x->0.0382057+1.64579I\\
&x->0.245838-1.73582I\\
&x->0.245838+1.73582I\\
&x->0.447601-1.81464I\\
&x->0.447601+1.81464I\\
&x->0.643734-1.87275I\\
&x->0.643734+1.87275I\\
&x->0.827097-1.89401I\\
&x->0.827097+1.89401I\\
&x->0.996905-1.8821I\\
&x->0.996905+1.8821I\\
&x->1.16135-1.84982I\\
&x->1.16135+1.84982I\\
&x->1.32122-1.80439I\\
&x->1.32122+1.80439I\\
&x->1.4781-1.74953I\\
&x->1.4781+1.74953I\\
&x->1.63265-1.68671I\\
&x->1.63265+1.68671I\\
&x->1.78419-1.61502I\\
&x->1.78419+1.61502I\\
&x->1.92741-1.53276I\\
&x->1.92741+1.53276I\\
&x->2.05677-1.44983I\\
&x->2.05677+1.44983I\\
&x->2.16522+1.36826I\\
&x->2.24733-1.27182I\\
&x->2.24733+1.27182I\\
&x->2.32368-1.15529I\\
&x->2.32368+1.15529I\\
&x->2.39796-1.0301I\\
&x->2.39796+1.0301I\\
&x->2.46745-0.89865I\\
&x->2.46745+0.89865I\\
&x->2.52955-0.762885I\\
&x->2.52955+0.762885I\\
&x->2.58366-0.627996I\\
&x->2.58366+0.627996I\\
&x->2.62769-0.496969I\\
&x->2.62769+0.496969I\\
&x->2.6579-0.369945I\\
&x->2.6579+0.369945I\\
&x->2.67455-0.245036I\\
&x->2.67455+0.245036I\\
&x->2.68188-0.121828I\\
&x->2.68188+0.121828I
\end{aligned}
$$