```
3.0
     x_{14}
  9.0
     -1.000000x_1 + 3.000000x_2
                        -3.000000x_4 + 1.000000x_5 + 2.000000x_6 + 1.000000x_7 + 2.000000x_8
x_{15}
           +3.000000x_2 +1.000000x_3 -2.000000x_4
  9.0
                                    -3.000000x_6 -1.000000x_7 +2.000000x_8 -2.000000x_8
x_{16}
x_{17}
  8.0
     -3.000000x_1 - 1.000000x_2 + 2.0000000x_3 + 3.000000x_4 - 2.0000000x_5
                                           +1.000000x_7 +1.000000x_8 -2.00
  13.0
     x_{18}
  5.0
            x_{19}
  3.0
                        +1.000000x_4 +1.000000x_5 -3.000000x_6 -2.000000x_7
            -3.000000x_2
x_{20}
x_{21}
  7.0
           +1.000000x_2 +3.000000x_3 -3.000000x_4
                                    12.0
     +1.000000x_1
                  +1.000000x_3 -3.000000x_4
                                    x_{22}
x_{23}
  5.0
     3.0
     -2.000000x_1 -1.000000x_2 -2.000000x_3 -2.000000x_4
                                           -1.000000x_7 -3.000000x_8 +2.00
x_{24}
  2.0
           x_{25}
  2.0
     x_{26}
  7.0
     x_{27}
  5.0
     -1.000000x_1 -3.000000x_2 -3.000000x_3 -2.000000x_4 -1.000000x_5 +3.000000x_6
                                                 +1.000000x_8 +3.00
x_{28}
     9.0
x_{29}
     11.0
x_{30}
  7.0
     +2.000000x_1 +1.000000x_2 +2.000000x_3 +2.000000x_4 +3.000000x_5 +2.000000x_6
                                                 +3.000000x_8
x_{31}
  7.0
            x_{32}
  15.0
            -3.000000x_2 - 2.000000x_3 - 3.000000x_4 - 2.000000x_5 + 2.000000x_6 + 3.000000x_7
                                                       -2.00
x_{33}
  0.0
     z
```

No initialization required –; Proceed to Optimize.

```
3.0
x_{14}
  9.0
     -1.000000x_1 + 3.000000x_2
                       -3.000000x_4 + 1.000000x_5 + 2.000000x_6 + 1.000000x_7 + 2.000000x_8
x_{15}
x_{16}
  9.0
           +3.000000x_2 +1.000000x_3 -2.000000x_4
                                  -3.000000x_1 -1.000000x_2 +2.000000x_3 +3.000000x_4 -2.000000x_5
                                        +1.000000x_7 +1.000000x_8 -2.00
  8.0
x_{17}
  13.0
     x_{18}
           5.0
x_{19}
  3.0
                       +1.000000x_4 +1.000000x_5 -3.000000x_6 -2.000000x_7
           -3.000000x_2
x_{20}
  7.0
           +1.000000x_2 +3.000000x_3 -3.000000x_4
                                  x_{21}
  12.0
                                  +1.000000x_1
                 +1.000000x_3 -3.000000x_4
x_{22}
     5.0
x_{23}
     -2.000000x_1 -1.000000x_2 -2.000000x_3 -2.000000x_4
                                        -1.000000x_7 -3.000000x_8 +2.00
  3.0
x_{24}
           2.0
x_{25}
  2.0
     x_{26}
  7.0
     x_{27}
     -1.000000x_1 -3.000000x_2 -3.000000x_3 -2.000000x_4 -1.000000x_5 +3.000000x_6
  5.0
                                              +1.000000x_8 +3.00
x_{28}
     9.0
x_{29}
     11.0
x_{30}
  7.0
     +2.000000x_1 +1.000000x_2 +2.000000x_3 +2.000000x_4 +3.000000x_5 +2.000000x_6
                                              +3.000000x_8
x_{31}
  7.0
           x_{32}
  15.0
           -3.000000x_2 - 2.000000x_3 - 3.000000x_4 - 2.000000x_5 + 2.000000x_6 + 3.000000x_7
                                                    -2.00
x_{33}
  0.0
```

 $x_1$  enters and  $x_{24}$  leaves

```
6.0
     -1.000000x_{24} -3.000000x_2 -1.000000x_3
                              x_{14}
  7.5
     x_{15}
  9.0
                                    +3.000000x_2 +1.000000x_3 -2.000000x_4
x_{16}
x_{17}
  3.5
     +1.500000x_{24} +0.500000x_2 +5.000000x_3 +6.000000x_4 -2.000000x_5
                                           +2.500000x_7 +5.500000x_8 -5.0
  10.0
     x_{18}
  5.0
            x_{19}
  3.0
                        +1.000000x_4 +1.000000x_5 -3.000000x_6 -2.000000x_7
            -3.000000x_2
x_{20}
x_{21}
  7.0
            +1.000000x_2 +3.000000x_3 -3.000000x_4
                                    +1.000000x_6 -3.500000x_7 -0.500000x_8 +4.0
  13.5
     -0.500000x_{24} - 0.500000x_2
                        -4.000000x_4
x_{22}
x_{23}
  3.5
     1.5
                                           -0.500000x_7 - 1.500000x_8 + 1.0
x_1
     -0.500000x_{24} - 0.500000x_2 - 1.000000x_3 - 1.000000x_4
  2.0
            x_{25}
  0.5
     x_{26}
  10.0
     -1.000000x_{24} + 1.000000x_2 - 5.000000x_3 - 1.000000x_4 + 3.000000x_5 + 1.000000x_6 - 3.000000x_7
x_{27}
  3.5
     x_{28}
                              4.5
     +1.500000x_{24} +0.500000x_2 +4.000000x_3
x_{29}
     12.5
x_{30}
  10.0
     -1.000000x_{24}
                              +3.000000x_5 +2.000000x_6 -1.000000x_7
                                                       +2.0
x_{31}
            x_{32}
  7.0
  15.0
            -3.000000x_2 - 2.000000x_3 - 3.000000x_4 - 2.000000x_5 + 2.000000x_6 + 3.000000x_7
x_{33}
  3.0
     -1.000000x_{24}
                  z
```

 $x_6$  enters and  $x_{20}$  leaves

```
x_{14}
        9.5
                +0.500000x_{24} + 1.500000x_2 + 1.000000x_3 - 1.333333x_4 + 1.666667x_5 - 0.666667x_{20} + 0.166667x_7 + 3.500000x_8 - 3
x_{15}
        6.0
                                  x_{16}
x_{17}
        3.5
                +1.500000x_{24} + 0.500000x_2 + 5.000000x_3 + 6.000000x_4 - 2.000000x_5
                                                                                                                            +2.500000x_7 +5.500000x_8 -5
        9.0
               x_{18}
        3.0
                                  x_{19}
        1.0
                                   -1.000000x_2
                                                                      +0.333333x_4 + 0.3333333x_5 - 0.3333333x_{20} - 0.666667x_7
x_6
        5.0
                                  x_{21}
       14.5
                -0.500000x_{24} - 1.500000x_2
                                                                      x_{22}
                +0.500000x_{24} - 0.500000x_2 - 1.000000x_3 + 3.666667x_4 + 2.666667x_5 - 0.666667x_{20} - 3.833333x_7 + 4.500000x_8 + 3.666667x_4 + 2.666667x_5 - 0.666667x_5 - 0.66667x_5 - 0.6666
        5.5
x_{23}
        1.5
                -0.500000x_{24} - 0.500000x_2 - 1.000000x_3 - 1.000000x_4
                                                                                                                            x_1
        4.0
                                   x_{25}
        1.5
                x_{26}
x_{27}
       11.0
                -1.000000x_{24}
                                                     -5.000000x_3 - 0.666667x_4 + 3.333333x_5 - 0.333333x_{20} - 3.666667x_7
                                                                                                         -1.000000x_{20} -1.500000x_7 +2.500000x_8 -1.
        6.5
                +0.500000x_{24} -5.500000x_2 -2.000000x_3
x_{28}
        3.5
                x_{29}
       14.5
                x_{30}
       12.0
                -1.000000x_{24} - 2.000000x_2
                                                                      +0.666667x_4 +3.666667x_5 -0.666667x_{20} -2.333333x_7
x_{31}
        9.0
                                   x_{32}
       17.0
                                   x_{33}
```

 $x_7$  enters and  $x_{23}$  leaves

```
3.04347826087
                                                                                                                                                                                                                                                             x_{14}
                                                                                                                                                                                                                                                             x_{15}
                                                                      9.73913043478
                                                                                                                                                                                                                                                             +0.130435x_{24} + 5.869565x_2 + 0.739130x_3 - 2.043478x_4 - 0.304348x_5 + 0.826087x_{20} - 0.260870x_{23} + 3.060870x_{23} + 0.060870x_{23} + 0.06080x_{23} + 0.0608
                                                                           7.4347826087
x_{16}
x_{17}
                                                                      7.08695652174
                                                                                                                                                                                                                                                             +1.826087x_{24} + 0.173913x_2 + 4.347826x_3 + 8.391304x_4 - 0.260870x_5 - 0.434783x_{20} - 0.652174x_{23} + 8.391304x_4 - 0.260870x_5 - 0.434783x_{20} - 0.652174x_{20} + 0.60870x_5 - 0.60870x_5 - 0.60870x_5 - 0.40870x_5 - 0.60870x_5 -
                                                                                                                                                                                                                                                             +1.347826x_{24} + 2.652174x_2 + 4.304348x_3 + 3.217391x_4 + 0.521739x_5 - 0.130435x_{20} - 0.695652x_{23} + 4.0521739x_5 - 0.00435x_{20} - 0.0045652x_{23} + 0.00476x_{20} +
                                                                      12.8260869565
 x_{18}
                                                                      3.47826086957
                                                                                                                                                                                                                                                             +0.043478x_{24} + 2.956522x_2 + 2.913043x_3 - 2.347826x_4 + 2.565217x_5 + 0.608696x_{20} - 0.086957x_{23} - 0.08696x_{20} + 0.0866x_{20} + 0.086x_{20} + 0.0866x_{20} + 0.086x_{20} + 0.0866x_{20} + 0.086x_{20} + 0.086x_{
 x_{19}
                                                                                                                                                                                                                                                             0.0434782608696
   x_6
x_{21}
                                                                      4.04347826087
                                                                                                                                                                                                                                                             8.52173913043
   x_{22}
                                                                                                                                                                                                                                                             1.4347826087
   x_7
                                                                                                                                                                                                                                                             0.782608695652
     x_1
                                                               0.652173913043
                                                                                                                                                                                                                                                             -0.304348x_{24} + 1.304348x_2 + 1.608696x_3 + 0.434783x_4 - 3.956522x_5 - 0.260870x_{20} + 0.608696x_{23} + 0.60866x_{23} +
   x_{25}
                                                                                                                                                                                                                                                             +0.739130x_{24} -2.739130x_2 -2.478261x_3 +1.086957x_4 +2.608696x_5 -0.652174x_{20} -0.478261x_{23} +0.08696x_5 -0.08676x_4 +0.08696x_5 -0.08676x_5 +0.08666x_5 -0.08666x_5 -0.08666x_5 +0.08666x_5 -0.08666x_5 +0.08666x_5 
                                                                      4.13043478261
 x_{26}
                                                                      5.73913043478
                                                                                                                                                                                                                                                             -1.478261x_{24} + 0.478261x_2 - 4.043478x_3 - 4.173913x_4 + 0.782609x_5 + 0.304348x_{20} + 0.956522x_{23} - 4.043478x_3 - 4.173913x_4 + 0.782609x_5 + 0.304348x_{20} + 0.956522x_{23} - 4.043478x_3 - 4.173913x_4 + 0.782609x_5 + 0.304348x_{20} + 0.956522x_{23} - 4.043478x_3 - 4.173913x_4 + 0.782609x_5 + 0.304348x_{20} + 0.956522x_{23} - 4.043478x_3 - 4.173913x_4 + 0.782609x_5 + 0.304348x_{20} + 0.956522x_{23} - 4.043478x_3 - 4.04478x_3 - 4.0478x_3 - 4.047
 x_{27}
                                                                                                                                                                                                                                                             4.34782608696
 x_{28}
                                                                                                                                                                                                                                                             +1.521739x_{24} +1.478261x_2 +3.956522x_3 -0.173913x_4 -2.217391x_5 +0.304348x_{20} -0.043478x_{23} +2.217391x_5 +0.304348x_{20} -0.043478x_{23} +2.217391x_5 +0.304348x_{20} -0.043478x_{23} +2.217391x_5 +0.304348x_{20} -0.043478x_{23} +2.217391x_5 +0.304348x_{20} -0.043478x_{20} +0.043478x_{20} +0.0
                                                                      3.73913043478
x_{29}
                                                                                                                                                                                                                                                             -0.478261x_{24} + 0.478261x_2 + 1.956522x_3 + 2.826087x_4 + 3.782609x_5 - 0.695652x_{20} - 0.043478x_{23} - 4.0478261x_{24} + 0.0478261x_{24} + 0.0478261x
x_{30}
                                                                      14.7391304348
                                                                      8.65217391304
                                                                                                                                                                                                                                                             -1.304348x_{24} - 1.695652x_2 + 0.608696x_3 - 1.565217x_4 + 2.043478x_5 - 0.260870x_{20} + 0.608696x_{23} - 2.060870x_{20} + 0.0608696x_{20} - 0.060866x_{20} - 0.06086x_{20} - 0.06086x
 x_{31}
                                                                                                                                                                                                                                                             -0.304348x_{24} - 3.695652x_2 + 2.608696x_3 + 0.434783x_4 + 2.043478x_5 - 0.260870x_{20} + 0.608696x_{23} - 4.043478x_5 + 0.043478x_5 - 0.040870x_{20} + 0.0408696x_{20} - 0.0408606x_{20} + 0
x_{32}
                                                                      5.65217391304
                                                                      19.3913043478
                                                                                                                                                                                                                                                             x_{33}
                                                                                                                                                                                                                                                             -0.956522x_{24} - 1.043478x_2 - 4.086957x_3 - 2.347826x_4 - 0.434783x_5 - 0.391304x_{20} - 0.086957x_{23} - 2.086957x_{23} - 2.0867x_{23} - 2.08
                                                                      4.47826086957
            z
```

 $x_9$  enters and  $x_6$  leaves

```
3.30434782609
                                                                                                                                                                                                                                                                                                      -1.608696x_{24} - 6.391304x_2 + 0.217391x_3 - 3.130435x_4 - 0.913043x_5 - 0.521739x_{20} + 1.217391x_{23} - 1.008696x_{24} - 0.00866x_{24} - 0.0086x_{24} 
x_{14}
                                                                                                                                                                                                                                                                                                      +0.782609x_{24}+4.217391x_2+0.434783x_3-0.260870x_4+2.173913x_5-0.043478x_{20}-0.565217x_{23}+60.043478x_{20}-0.043478x_{20}-0.043478x_{20}-0.043478x_{20}-0.043478x_{20}-0.043478x_{20}-0.043478x_{20}-0.043478x_{20}-0.043478x_{20}-0.043478x_{20}-0.043478x_{20}-0.043478x_{20}-0.043478x_{20}-0.043478x_{20}-0.043478x_{20}-0.043478x_{20}-0.043478x_{20}-0.043478x_{20}-0.043478x_{20}-0.043478x_{20}-0.043478x_{20}-0.043478x_{20}-0.043478x_{20}-0.043478x_{20}-0.043478x_{20}-0.043478x_{20}-0.043478x_{20}-0.043478x_{20}-0.043478x_{20}-0.043478x_{20}-0.043478x_{20}-0.043478x_{20}-0.043478x_{20}-0.043478x_{20}-0.043478x_{20}-0.043478x_{20}-0.043478x_{20}-0.043478x_{20}-0.043478x_{20}-0.043478x_{20}-0.043478x_{20}-0.043478x_{20}-0.043478x_{20}-0.043478x_{20}-0.043478x_{20}-0.043478x_{20}-0.043478x_{20}-0.043478x_{20}-0.043478x_{20}-0.043478x_{20}-0.043478x_{20}-0.043478x_{20}-0.043478x_{20}-0.043478x_{20}-0.043478x_{20}-0.043478x_{20}-0.043478x_{20}-0.043478x_{20}-0.043478x_{20}-0.043478x_{20}-0.043478x_{20}-0.043478x_{20}-0.043478x_{20}-0.043478x_{20}-0.043478x_{20}-0.043478x_{20}-0.043478x_{20}-0.043478x_{20}-0.043478x_{20}-0.043478x_{20}-0.043478x_{20}-0.043478x_{20}-0.043478x_{20}-0.043478x_{20}-0.043478x_{20}-0.043478x_{20}-0.043478x_{20}-0.043478x_{20}-0.043478x_{20}-0.043478x_{20}-0.043478x_{20}-0.043478x_{20}-0.043478x_{20}-0.043478x_{20}-0.043478x_{20}-0.043478x_{20}-0.043478x_{20}-0.043478x_{20}-0.043478x_{20}-0.043478x_{20}-0.043478x_{20}-0.043478x_{20}-0.043478x_{20}-0.043478x_{20}-0.043478x_{20}-0.043478x_{20}-0.043478x_{20}-0.043478x_{20}-0.043478x_{20}-0.043478x_{20}-0.043478x_{20}-0.043478x_{20}-0.043478x_{20}-0.043478x_{20}-0.043478x_{20}-0.043478x_{20}-0.043478x_{20}-0.043478x_{20}-0.043478x_{20}-0.043478x_{20}-0.043478x_{20}-0.043478x_{20}-0.043478x_{20}-0.043478x_{20}-0.043478x_{20}-0.043478x_{20}-0.043478x_{20}-0.043478x_{20}-0.043478x_{20}-0.043478x_{20}-0.043478x_{20}-0.043478x_{20}-0.043478x_{20}-0.043478x_{20}-0.043478x_{20}-0.043478x_{20}-0.043478x_{20}-0.043478x_{20}-0.043478x_{20}-0.043478x_{20}
                                                                                 9.60869565217
  x_{15}
                                                                                 7.47826086957
                                                                                                                                                                                                                                                                                                      +0.043478x_{24} + 4.956522x_2 + 0.913043x_3 - 2.347826x_4 - 0.434783x_5 + 0.608696x_{20} - 0.086957x_{23} + 2.0608696x_{20} + 0.0608696x_{20} + 0.060866x_{20} + 0.060866x_{20} + 0.060866x_{20} + 0.060866x_{20} + 0.060866x_{20} + 0.060866x_{20} + 0.06086x_{20} + 0.06
x_{16}
                                                                                                                                                                                                                                                                                                      +2.260870x_{24} + 4.739130x_2 + 3.478261x_3 + 9.913043x_4 + 0.391304x_5 + 0.652174x_{20} - 1.521739x_{23} + 1.06672174x_{20} + 0.06672174x_{20} + 0.06672174x_{20} + 0.06672174x_{20} + 0.0672174x_{20} + 0.0672
                                                                                 6.86956521739
  x_{17}
                                                                                 12.7826086957
                                                                                                                                                                                                                                                                                                      +1.434783x_{24} + 3.565217x_2 + 4.130435x_3 + 3.521739x_4 + 0.652174x_5 + 0.086957x_{20} - 0.869565x_{23} + 0.0869565x_{23} + 0.086956x_{23} + 0.08665x_{23} + 0.08665x_{23} + 0.08665x_{23} + 0.08665x_{23} + 0.08665x_{23} + 0.08665x_{23} + 0.0866x_{23} + 0.086x_{23} + 0.086x_{23} + 0.086x_{23} + 0.086x_{23} + 0.086x_{23} 
  x_{18}
                                                                                                                                                                                                                                                                                                      -0.217391x_{24} + 0.217391x_2 + 3.434783x_3 - 3.260870x_4 + 2.173913x_5 - 0.043478x_{20} + 0.434783x_{23} - 2.260870x_4 + 2.173913x_5 - 0.043478x_{20} + 0.434783x_{20} + 0.43478x_{20} + 0.4347
                                                                                 3.60869565217
  x_{19}
                                                                   0.0434782608696
                                                                                                                                                                                                                                                                                                      x_9
                                                                                                                                                                                                                                                                                                      -0.173913x_{24} + 2.173913x_2 + 3.347826x_3 - 4.608696x_4 - 1.260870x_5 + 0.565217x_{20} + 0.347826x_{23} - 2.00870x_5 + 0.00870x_5 +
x_{21}
                                                                                 4.08695652174
                                                                                                                                                                                                                                                                                                      -1.304348x_{24} - 3.695652x_2 + 1.608696x_3 - 8.565217x_4 - 2.956522x_5 - 0.260870x_{20} + 1.608696x_{23} - 7.060870x_{20} + 1.008696x_{23} - 7.060870x_{20} + 1.008696x_{23} - 7.060870x_{20} + 1.008696x_{23} - 7.060870x_{20} + 1.008696x_{23} - 7.060870x_{20} + 1.008696x_{20} + 1.00866x_{20} + 1.0086x_{20} + 1.0086x
                                                                                 8.65217391304
  x_{22}
                                                                                        1.4347826087
                                                                                                                                                                                                                                                                                                      x_7
                                                                           0.826086956522
                                                                                                                                                                                                                                                                                                      x_1
                                                                                                                                                                                                                                                                                                      +0.043478x_{24} + 4.956522x_2 + 0.913043x_3 + 1.652174x_4 - 3.434783x_5 + 0.608696x_{20} - 0.086957x_{23} + 534076x_{24} + 0.008696x_{20} + 0.00866x_{20} + 0.00866x
x_{25}
                                                                           0.478260869565
                                                                                                                                                                                                                                                                                                      4.08695652174
  x_{26}
                                                                                                                                                                                                                                                                                                      5.78260869565
x_{27}
                                                                                 4.30434782609
                                                                                                                                                                                                                                                                                                      x_{28}
                                                                                 3.52173913043
                                                                                                                                                                                                                                                                                                      +1.956522x_{24} + 6.043478x_2 + 3.086957x_3 + 1.347826x_4 - 1.565217x_5 + 1.391304x_{20} - 0.913043x_{23} + 6.043478x_2 + 3.086957x_3 + 1.347826x_4 - 1.565217x_5 + 1.391304x_{20} - 0.913043x_{23} + 6.043478x_2 + 1.040476x_2 + 1.040476x_3 + 1.040476x_4 + 1.040476x_4 + 1.040476x_5 
  x_{29}
                                                                                                                                                                                                                                                                                                      14.5652173913
    x_{30}
                                                                                                                                                                                                                                                                                                      -1.304348x_{24} - 1.695652x_2 + 0.608696x_3 - 1.565217x_4 + 2.043478x_5 - 0.260870x_{20} + 0.608696x_{23} - 2.060870x_{20} + 0.008696x_{20} + 0.00866x_{20} + 0.0086
x_{31}
                                                                                 8.65217391304
                                                                                                                                                                                                                                                                                                      -0.043478x_{24} - 0.956522x_2 + 2.086957x_3 + 1.347826x_4 + 2.434783x_5 + 0.391304x_{20} + 0.086957x_{23} - 2.086957x_{23} + 0.086957x_{23} + 0.0867x_{23} + 0.0867x_{
                                                                                 5.52173913043
  x_{32}
                                                                                 19.2173913043
                                                                                                                                                                                                                                                                                                      +0.565217x_{24} - 1.565217x_2 - 3.130435x_3 + 0.478261x_4 + 0.347826x_5 - 0.086957x_{20} - 1.130435x_{23} + 50.086677x_{20} + 0.086677x_{20} - 0.086677x_{20} + 0.08677x_{20} + 0.0877x_{20} + 0.0877x_{20} + 0.0877x_{20} + 0.0877x_{20} + 0.0877x_{20} + 0.0877x_{20
x_{33}
                                                                                                                                                                                                                                                                                                      -1.043478x_{24} - 1.956522x_2 - 3.913043x_3 - 2.652174x_4 - 0.565217x_5 - 0.608696x_{20} + 0.086957x_{23} - 3.066666x_{20} + 0.086967x_{23} - 3.066666x_{20} + 0.086967x_{23} - 3.066666x_{20} + 0.086966x_{20} + 0.086966x_{20} + 0.086966x_{20} + 0.08696x_{20} + 0.086966x_{20} + 0.08696x_{20} + 0.0866x_{20} + 0.0866x_{20
                                                                               4.52173913043
```

 $x_{11}$  enters and  $x_{25}$  leaves

```
6.33333333333
x_{14}
                                                                                                                        8.33333333333
x_{15}
                                                                                                                         2.111111111111
x_{16}
                                                              4.0
                                                                                                                        +2.000000x_{24} - 25.000000x_2 - 2.000000x_3
                                                                                                                                                                                                                                                                                                                                                                                                                                 +21.000000x_5 -3.000000x_{20} -1.000000x_{23} -
x_{17}
                               11.666666667
                                                                                                                        +1.333333x_{24} - 8.000000x_2 + 2.000000x_3 - 0.333333x_4 + 8.666667x_5 - 1.333333x_{20} - 0.666667x_{23}
x_{18}
                               4.7777777778
                                                                                                                         x_{19}
                                                                                                                        x_9
                                                              1.0
                               2.33333333333
                                                                                                                         x_{21}
                                                                                                                        -1.222222x_{24} + 5.666667x_2 + 3.333333x_3 - 5.444444x_4 - 9.44444x_5 + 0.888889x_{20} + 1.444444x_{23} - 9.44444x_5 + 0.88889x_{20} + 1.444444x_{23} - 9.44444x_{24} + 0.88889x_{20} + 0.88888x_{20} + 0.88888x_{20} + 0.88888x_{20} + 0.88888x_{20} + 0.88888x_{20} + 0.88888x_{20} + 0.8888x_{20} + 0.888x_{20} + 0.888x_{20}
                              9.555555556
  x_{22}
                               1.222222222
                                                                                                                        +0.1111111x_{24} - 2.333333x_2 - 0.666667x_3 + 0.222222x_4 + 2.222222x_5 - 0.444444x_{20} - 0.222222x_{23}
  x_7
                                                                                                                        -0.555556x_{24} + 9.666667x_2 + 1.3333333x_3 + 1.888889x_4 - 8.111111x_5 + 1.222222x_{20} + 0.111111x_{23} + 1.88889x_4 + 1.888889x_4 + 1.8888889x_4 + 1.888889x_4 + 1.8888889x_4 + 1.8888889x_4 + 1.8888889x_4 + 1.8888889x_4 + 1.8888889x_4 + 1.888888880x_4 + 1.88888880x_4 + 1.8888880x_4 + 1.888880x_4 + 1.8888880x_4 + 1.888880x_4 + 1.8888880x_4 + 1.888880x_4 + 1.8888880x_4 + 1.888880x_4 + 1.8888880x_4 + 1.
                               1.8888888889
   x_1
                                                                                                                        1.222222222
  x_{11}
                                                                                                                        +0.777778x_{24} -7.333333x_2 -3.666667x_3 -0.444444x_4 +6.555556x_5 -1.111111x_{20} -0.555556x_{23} +1.111111x_{20} -0.555556x_{23} +1.111111x_{20} -0.555556x_{23} +1.111111x_{20} -0.555556x_{23} +1.111111x_{20} -0.555556x_{23} +1.111111x_{20} -0.555556x_{23} +1.111111x_{20} -0.555556x_{23} +1.1111111x_{20} -0.555556x_{23} +1.111111x_{20} -0.555556x_{23} +1.1111111x_{20} -0.555556x_{23} +1.1111111x_{20} -0.555556x_{23} +1.1111111x_{20} -0.555556x_{23} +1.1111111x_{20} -0.555556x_{23} +1.1111111x_{20} +1.111111x_{20} +1.111111x_{20} +1.11111x_{20} +1.11111x_{20} +1.11111x_{20} +1.11111x_{20} +1.11111x_{20} +1.11111x_{20} +1.11111x_{20} +1.11111x_{20} +1.1111x_{20} +1.11111x_{20} +1.11111x_{20} +1.11111x_{20} +1.11111x_{20} +1.1111x_{20} +1.1111x_{20} +1.1111x_{20} +1.1111x_{20} +1.1111x_{20} +1.1111x_{20} +1.1111x_{20} +1.11x_{20} +1.11x_{
 x_{26}
                              3.5555555556
                              4.6666666667
                                                                                                                         -1.666667x_{24} - 12.000000x_2 - 6.000000x_3 - 8.333333x_4 + 8.666667x_5 - 1.333333x_{20} + 1.333333x_{23} -
 x_{27}
                                                                                                                       4.88888888889
 x_{28}
                               1.5555555556
                                                                                                                        +1.777778x_{24} - 14.333333x_2 - 0.666667x_3 - 5.444444x_4 + 12.555556x_5 - 1.111111x_{20} - 0.555556x_{23} - 1.111111x_{20} - 0.555556x_{20} - 1.1111111x_{20} - 0.55556x_{20} - 1.1111111x_{20} - 0.5556x_{20} - 0.5566x_{20} - 0.5566x_{20}
x_{29}
                                                                                                                        -0.222222x_{24} -6.333333x_2 -0.666667x_3 +0.555556x_4 +11.555556x_5 -1.111111x_{20} -0.555556x_{23} -1.111111x_{20} -0.555556x_{23} -1.111111x_{20} -0.555556x_{23} -1.111111x_{20} -0.555556x_{23} -1.1111111x_{20} -0.555556x_{23} -1.1111111x_{20} -0.555556x_{23} -1.1111111x_{20} -0.555556x_{23} -1.1111111x_{20} -0.555556x_{23} -1.1111111x_{20} -0.555556x_{23} -1.11111111x_{20} -0.555556x_{23} -1.1111111x_{20} -0.5555556x_{23} -1.1111111x_{20} -0.5555556x_{23} -1.1111111x_{20} -0.5555556x_{23} -1.1111111x_{20} -0.5555556x_{23} -1.1111111x_{20} -0.5555556x_{20} -1.11111111x_{20} -0.5555556x_{20} -1.111111111x_{20} -0.5555556x_{20} -1.11111111x_{20} -0.5555556x_{20} -1.11111111x_{20} -0.5555556x_{20} -1.11111111x_{20} -0.555556x_{20} -1.11111111x_{20} -0.555556x_{20} -1.11111111x_{20} -0.555556x_{20} -1.11111111x_{20} -0.5555556x_{20} -1.11111111x_{20} -0.5555556x_{20} -1.11111111111x_{20} -0.55555556x_{20} -1.111111111x_{20} -0.5555556x_{20} -1.1111111111x_{20} -0.5555556x_{20} -1.11111111x_{20} -0.5555556x_{20} -1.111111111x_{20} -0.5555556x_{20} -1.111111111x_{20} -0.55555556x_{20} -1.11111111x_{20} -1.111111111x_{20} -1.1111111111x_{20}
                               13.555555556
x_{30}
                               13.222222222
                                                                                                                         x_{31}
                                                                                                                        x_{32}
                              2.33333333333
                              20.3333333333
                                                                                                                        +0.666667x_{24} + 10.000000x_2 - 1.000000x_3 + 4.333333x_4 - 7.666667x_5 + 1.333333x_{20} - 1.333333x_{23} + 4.333333x_{23} + 1.333333x_{20} - 1.33333x_{20} - 1.3333x_{20} - 1.3333x_{20} - 1.333x_{20} - 1.333x_{20} - 1.33x_{20} - 1.3x_{20} - 1.
 x_{33}
                                                                                                                         -1.000000x_{24} + 3.000000x_2 - 3.000000x_3 - 1.000000x_4 - 4.000000x_5 - 0.000000x_{20} - 0.000000x_{23}
                                                             5.0
       z
```

 $x_2$  enters and  $x_{16}$  leaves

```
7.375
                                                                                                                                                                                                                                                     x_{14}
                                                                    7.95833333333
                                                                                                                                                                                                                                                     x_{15}
   x_2
                                                                                                                                                                                                                                                     -0.008772x_{24} - 0.019737x_{16} - 0.184211x_3 - 0.412281x_4 + 0.752193x_5 - 0.122807x_{20} + 0.017544x_{23} - 0.01754x_{23} - 0.01754
                                                        0.04166666666667
                                                                    2.95833333333
                                                                                                                                                                                                                                                     +2.219298x_{24} + 0.493421x_{16} + 2.605263x_3 + 10.307018x_4 + 2.195175x_5 + 0.070175x_{20} - 1.438596x_{23} + 0.070175x_{20} + 0.070175x_{
 x_{17}
                                                                    11.3333333333
                                                                                                                                                                                                                                                     +1.403509x_{24} + 0.157895x_{16} + 3.473684x_3 + 2.964912x_4 + 2.649123x_5 - 0.350877x_{20} - 0.807018x_{23} + 0.007018x_{24} + 0.007018x_{25} + 0.007018x_{2
 x_{18}
                                                                                                                                                                                                                                                     -0.219298x_{24} - 0.243421x_{16} + 3.394737x_3 - 4.307018x_4 + 3.054825x_5 - 0.070175x_{20} + 0.438596x_{23} + 0.070175x_{20} + 0.070175x_{2
                                                                    5.29166666667
 x_{19}
                                                                                                                1.375
                                                                                                                                                                                                                                                     x_9
                                                                                                                                                                                                                                                     -0.192982x_{24} + 0.315789x_{16} + 2.947368x_3 - 4.070175x_4 - 0.701754x_5 + 0.298246x_{20} + 0.385965x_{23}
                                                                    1.6666666667
 x_{21}
                                                                    9.79166666667
                                                                                                                                                                                                                                                     -1.271930x_{24} - 0.111842x_{16} + 2.289474x_3 - 7.780702x_4 - 5.182018x_5 + 0.192982x_{20} + 1.543860x_{23} + 0.182018x_{23} + 0.192982x_{20} + 0.19282x_{20} + 0.1928x_{20} + 0.1928x_{20} + 0.1928x_{20} + 0.1928x_{20} + 0.1928x_{20} + 0.1928x_{
 x_{22}
                                                                                                                                                                                                                                                     +0.131579x_{24} + 0.046053x_{16} - 0.236842x_3 + 1.184211x_4 + 0.467105x_5 - 0.157895x_{20} - 0.263158x_{23} + 0.0467105x_5 
     x_7
                                                                                                                  1.125
                                                                    2.29166666667
                                                                                                                                                                                                                                                     x_1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      -1.000000x_4 +0.750000x_5
x_{11}
                                                                                                                       1.75
                                                                                                                                                                                                                                                     -0.000000x_{24} -0.250000x_{16}
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             +0.000000x_{23}
                                                                                                                       3.25
                                                                                                                                                                                                                                                     +0.842105x_{24} + 0.144737x_{16} - 2.315789x_3 + 2.578947x_4 + 1.039474x_5 - 0.210526x_{20} - 0.684211x_{23} + 0.036476x_5 + 0.036676x_5 + 0.03676x_5 + 0.03676x_5 + 0.036676x_5 + 0.0
 x_{26}
                                                                                                                                                                                                                                                     4.16666666667
x_{27}
                                                                    4.95833333333
                                                                                                                                                                                                                                                     +0.429825x_{24} - 0.032895x_{16} - 0.973684x_3 + 0.201754x_4 - 3.857456x_5 + 0.017544x_{20} + 0.140351x_{23} + 0.01754x_{20} + 0.01754x_{20}
x_{28}
                                                                0.9583333333333
                                                                                                                                                                                                                                                     x_{29}
                                                                    13.2916666667
                                                                                                                                                                                                                                                     x_{30}
x_{31}
                                                                                                           15.125
                                                                                                                                                                                                                                                     -1.289474x_{24} - 0.901316x_{16} + 0.921053x_3 - 4.605263x_4 + 3.572368x_5 - 0.052632x_{20} + 0.578947x_{23} - 0.052632x_{20} + 0.05262x_{20} + 0.0
                                                                                                                                                                                                                                                     -0.035088x_{24} + 0.671053x_{16} + 2.263158x_3 + 4.350877x_4 - 0.241228x_5 + 0.508772x_{20} + 0.070175x_{23} - 0.035088x_{24} + 0.070175x_{23} - 0.035088x_{24} + 0.070175x_{23} - 0.035088x_{24} + 0.070175x_{25} + 0.070175x_{2
                                                               0.9166666666667
 x_{32}
                                                                                                                  20.75
                                                                                                                                                                                                                                                     +0.578947x_{24} - 0.197368x_{16} - 2.842105x_3 + 0.210526x_4 - 0.144737x_5 + 0.105263x_{20} - 1.157895x_{23} + 0.210526x_4 + 0.144737x_5 + 0.005263x_{20} - 0.00526x_4 + 0.005263x_{20} - 0.00526x_4 + 0.005263x_{20} + 0.00526x_4 + 0.00526x
x_{33}
                                                                                                                5.125
                                                                                                                                                                                                                                                     -1.026316x_{24} - 0.059211x_{16} - 3.552632x_3 - 2.236842x_4 - 1.743421x_5 - 0.368421x_{20} + 0.052632x_{23}
```

 $x_6$  enters and  $x_2$  leaves

```
7.22276029056
                                                                                                                                                                                      -1.520581x_{24} - 0.421308x_{16} + 2.067797x_3 - 1.467312x_4 - 6.610169x_5 + 0.711864x_{20} + 1.041162x_{23} - 5.06781x_{24} - 0.06781x_{24} - 0.06781x_{24}
x_{14}
                                                                                                                                                                                      +0.740920x_{24} + 0.167070x_{16} - 0.440678x_3 - 1.176755x_4 + 4.966102x_5 - 0.627119x_{20} - 0.481840x_{23} + 2.067119x_{20} - 0.067119x_{20} - 0.067119x_{2
 x_{15}
                                                 7.98062953995
                                                                                                                                                                                     0.046004842615
   x_6
                                                3.12590799031
                                                                                                                                                                                    +2.184019x_{24} + 0.414044x_{16} + 1.864407x_3 + 8.648910x_4 + 5.220339x_5 - 0.423729x_{20} - 1.368039x_{23} + 6.048910x_4 + 0.048070x_5 + 0
 x_{17}
                                                                                                                                                                                    +1.414044x_{24} + 0.181598x_{16} + 3.694915x_3 + 3.460048x_4 + 1.745763x_5 - 0.203390x_{20} - 0.828087x_{23} + 3.60048x_4 + 1.745763x_5 - 0.203390x_{20} + 0.828087x_{23} + 3.60048x_4 + 0.181598x_5 + 0.181588x_5 + 0.18188x_5 + 0.18188x_5
                                                11.2832929782
  x_{18}
                                                 5.08958837772
                                                                                                                                                                                     x_{19}
                                                                                                                                                                                    1.32203389831
   x_9
                                                 1.61259079903
                                                                                                                                                                                     -0.181598x_{24} + 0.341404x_{16} + 3.186441x_3 - 3.535109x_4 - 1.677966x_5 + 0.457627x_{20} + 0.363196x_{23} - 2.0667766x_5 + 0.067627x_{20} + 0.067766x_5 + 0.06766x_5 + 0.067766x_5 + 0.06766x_5 + 0.067766x_5 + 0.06766x_5 + 0.06766x_5
 x_{21}
                                                                                                                                                                                     9.76513317191
  x_{22}
                                                                                                                                                                                     1.14043583535
   x_7
                                                                                                                                                                                     2.25181598063
     x_1
                                                                                                                                                                                    1.69249394673
   x_{11}
                                                                                                                                                                                     x_{26}
                                                3.39709443099
                                                 4.19128329298
                                                                                                                                                                                     -1.566586x_{24} + 0.225182x_{16} - 3.898305x_3 - 3.629540x_4 + 0.084746x_5 + 0.067797x_{20} + 1.133172x_{23} - 4.067797x_{20} + 0.067797x_{20} + 0.06777x_{20} + 0.0677x_{20} + 0.
  x_{27}
                                                   5.1598062954
                                                                                                                                                                                     x_{28}
                                                                                                                                                                                    +1.888620x_{24} + 0.249395x_{16} + 1.661017x_3 - 0.234867x_4 + 3.050847x_5 + 0.440678x_{20} - 0.777240x_{23} + 1.661017x_3 + 0.249395x_{16} + 0.24935x_{16} + 0.24035x_{16} + 0.24035x_{16
                                                   1.02905569007
 x_{29}
                                                   13.3510895884
                                                                                                                                                                                     -0.179177x_{24} + 0.096852x_{16} + 0.237288x_3 + 2.578692x_4 + 7.864407x_5 - 0.508475x_{20} - 0.641646x_{23} - 4.06466x_{23} + 0.064666x_{23} - 0.06466x_{23} - 0.0
 x_{30}
                                                         14.98062954
                                                                                                                                                                                      x_{31}
                                                                                                                                                                                      x_{32}
                                                   1.24455205811
                                                20.9467312349
                                                                                                                                                                                     x_{33}
                                                                                                                                                                                      -1.029056x_{24} - 0.065375x_{16} - 3.610169x_3 - 2.365617x_4 - 1.508475x_5 - 0.406780x_{20} + 0.058111x_{23} - 2.06667x_{20} - 0.06667x_{20} - 0.066780x_{20} - 0.066780x_{20}
                                                5.13801452785
          z
```

 $x_{23}$  enters and  $x_{29}$  leaves

```
8.60124610592
                                                                                                                                                                                                +1.009346x_{24} - 0.087227x_{16} + 4.292835x_3 - 1.781931x_4 - 2.523364x_5 + 1.302181x_{20} - 1.339564x_{29} - 2.523364x_5 + 1.302181x_{20} - 1.339564x_{20} 
x_{14}
                                                                                                                                                                                                7.34267912773
x_{15}
  x_6
                                            0.0716510903427
                                                                                                                                                                                               -1.140187x_{24} - 0.024922x_{16} - 1.059190x_3 + 9.062305x_4 - 0.149533x_5 - 1.199377x_{20} + 1.760125x_{29} + 0.062305x_4 - 0.06305x_4 - 0.06305x_5 - 0.0005x_5 - 0.0005x_5
                                                     1.31464174455
 x_{17}
                                                     10.1869158879
                                                                                                                                                                                                -0.598131x_{24} - 0.084112x_{16} + 1.925234x_3 + 3.710280x_4 - 1.504673x_5 - 0.672897x_{20} + 1.065421x_{29} + 1.065421x_{2
 x_{18}
                                                                                                                                                                                                5.55763239875
 x_{19}
                                                        1.5015576324
                                                                                                                                                                                                +0.261682x_{24} - 0.109034x_{16} + 0.866044x_3 - 0.227414x_4 - 0.654206x_5 + 0.127726x_{20} - 0.174455x_{29} + 0.066606x_5 + 0.0666006x_5 + 0.066606x_5 + 0.066606x_5 + 0.066606x_5 + 0.066606x_5 + 
  x_9
                                                                                                                                                                                                +0.700935x_{24} + 0.457944x_{16} + 3.962617x_3 - 3.644860x_4 - 0.252336x_5 + 0.663551x_{20} - 0.467290x_{29} - 0.46720x_{29} - 0.467
x_{21}
                                                     2.09345794393
                                                     11.7943925234
                                                                                                                                                                                                x_{22}
                                                                                                                                                                                                x_7
                                                     0.80062305296
                                                     2.60124610592
                                                                                                                                                                                                x_1
                                                                                                                                                                                                -0.046729x_{24} - 0.230530x_{16} + 0.202492x_3 - 0.423676x_4 - 0.383178x_5 + 0.155763x_{20} + 0.031153x_{29} + 0.03115x_{29} + 0.0
x_{11}
                                                     1.66043613707
                                                     2.57320872274
                                                                                                                                                                                                x_{26}
                                                     5.69158878505
                                                                                                                                                                                                x_{27}
                                                     5.45794392523
                                                                                                                                                                                                +0.934579x_{24} - 0.056075x_{16} - 1.383178x_3 - 1.859813x_4 + 0.663551x_5 - 0.448598x_{20} - 0.289720x_{29} + 0.0663551x_5 - 0.0663551x_5 - 0.066075x_{16} - 0.06607x_{16} - 
 x_{28}
                                                     1.32398753894
                                                                                                                                                                                                x_{23}
                                                     12.5015576324
                                                                                                                                                                                                x_{30}
x_{31}
                                                     15.666666667
                                                                                                                                                                                                                                                                                                             +0.401869x_{24} + 0.582555x_{16} + 1.258567x_3 + 1.043614x_4 + 6.495327x_5 - 0.339564x_{20} - 0.267913x_{29} - 0.267913x_{29} + 0.267913x_{29} - 0.267774x_{29} - 0.267774x_{2
                                                     1.52024922118
x_{32}
                                                         19.523364486
                                                                                                                                                                                                x_{33}
                                                                                                                                                                                                -0.887850x_{24} - 0.046729x_{16} - 3.485981x_3 - 2.383178x_4 - 1.280374x_5 - 0.373832x_{20} - 0.074766x_{29} - 2.066729x_{10} - 0.074766x_{20} - 0.074766x_{2
                                                     5.21495327103
```

 $x_{-1}$  enters and Final Dictionary Solution: 5.21495327103 Num Pivots: 8