```
x_{15}
  15.0
            6.0
x_{16}
  1.0
     +2.000000x_1
                         x_{17}
x_{18}
  15.0
     -2.000000x_1 + 1.000000x_2 - 1.000000x_3 + 1.000000x_4 + 2.000000x_5
  2.0
                                                  +1.000000x_8 + 2.00
  14.0
     -1.000000x_1 - 1.000000x_2 + 3.000000x_3 - 2.000000x_4 + 2.000000x_5 + 2.000000x_6 - 1.000000x_7
x_{20}
     +1.000000x_1 +2.000000x_2 +2.0000000x_3
                                            +1.000000x_7 +1.000000x_8 +2.00
  13.0
                               -1.000000x_5
x_{21}
            x_{22}
  10.0
  12.0
     -1.000000x_1 -2.000000x_2
                        +1.000000x_4
                                     x_{23}
x_{24}
  15.0
     +2.000000x_1 +2.000000x_2
                        x_{25}
  8.0
                                     -2.000000x_6 + 1.000000x_7 + 1.0000000x_8 - 3.00
  12.0
     +3.000000x_1 +3.000000x_2 -3.000000x_3 -1.000000x_4
x_{26}
     3.0
  12.0
     x_{28}
  6.0
     +1.000000x_1 +1.000000x_2
                        +1.000000x_4 +3.000000x_5 +2.000000x_6 -3.000000x_7
x_{29}
     -1.000000x_1 + 1.000000x_2 + 1.000000x_3 + 2.000000x_4 - 1.000000x_5 - 1.000000x_6 - 1.000000x_7
                                                        -2.00
  0.0
```

No initialization required –; Proceed to Optimize.

```
15.0
x_{15}
x_{16}
  6.0
          1.0
    +2.000000x_1
                    x_{17}
  15.0
    x_{18}
  2.0
    -2.000000x_1 + 1.000000x_2 - 1.000000x_3 + 1.000000x_4 + 2.000000x_5
                                         +1.000000x_8 + 2.00
x_{19}
    14.0
x_{20}
  13.0
    +1.000000x_1 +2.000000x_2 +2.000000x_3
                         -1.000000x_5
                                    +1.000000x_7 +1.000000x_8 +2.00
x_{21}
          10.0
x_{22}
  12.0
                               +1.000000x_6 +1.000000x_7 +1.000000x_8 -3.00
    -1.000000x_1 - 2.000000x_2
                    +1.000000x_4
  15.0
    -2.00
x_{24}
                    8.0
    +2.000000x_1 +2.000000x_2
x_{25}
  12.0
    +3.000000x_1 +3.000000x_2 -3.000000x_3 -1.000000x_4
                               -2.000000x_6 + 1.000000x_7 + 1.000000x_8 - 3.00
x_{26}
  3.0
    x_{27}
    12.0
x_{28}
  6.0
    +1.000000x_1 +1.000000x_2
                    +1.000000x_4 +3.000000x_5 +2.000000x_6 -3.000000x_7
x_{29}
    0.0
                                              -2.00
```

 x_2 enters and x_{27} leaves

```
10.5
    x_{15}
  4.5
    x_{16}
  1.0
    +2.000000x_1
                  x_{17}
x_{18}
  16.5
    3.5
x_{19}
  12.5
    x_{20}
    16.0
x_{21}
  8.5
    x_{22}
  9.0
    -2.000000x_1 + 1.000000x_{27} - 1.000000x_3 + 4.000000x_4 - 3.000000x_5 - 1.000000x_6
                                      +2.000000x_8 - 1.0
x_{23}
x_{24}
  16.5
    -1.500000x_1 - 0.500000x_{27} - 1.500000x_3 - 4.500000x_4 - 0.500000x_5
                                 -1.500000x_7 - 0.500000x_8 - 3.0
    +3.000000x_1 - 1.000000x_2 + 1.000000x_3 - 1.000000x_4 + 1.000000x_5 + 3.000000x_6 - 2.000000x_7 + 1.000000x_8
x_{25}
  11.0
    16.5
x_{26}
    1.5
x_2
  15.0
    +2.000000x_1 -1.000000x_{27}
                       x_{28}
    7.5
x_{29}
    -0.500000x_1 -0.500000x_{27} +1.500000x_3 +0.500000x_4 +0.500000x_5
                                 -0.500000x_7 - 0.500000x_8 - 3.0
  1.5
```

 x_3 enters and x_{16} leaves

```
11.4
x_{15}
  1.8
    x_3
                 x_{17}
  1.0
   +2.000000x_1
 15.6
   +3.600000x_1 - 0.600000x_{27} + 0.200000x_{16} - 4.400000x_4 + 0.400000x_5 - 0.600000x_6 - 2.600000x_7
x_{18}
  2.6
    +1.
 17.0
   x_{20}
   21.4
x_{21}
 9.4
   x_{22}
   x_{23}
  7.2
 13.8
   x_{24}
 12.8
   x_{25}
 13.8
   x_{26}
    +0.400000x_1 - 0.400000x_{27} - 0.200000x_{16} - 1.600000x_4 + 1.600000x_5 + 0.600000x_6 + 0.600000x_7
x_2
  2.4
                     +5.000000x_5 -1.000000x_6 +2.000000x_7 -4.000000x_8 -5
 15.0
   +2.000000x_1 - 1.000000x_{27}
x_{28}
   +1.400000x_1 - 0.400000x_{27} - 0.200000x_{16} - 0.600000x_4 + 4.600000x_5 + 2.600000x_6 - 2.400000x_7
x_{29}
  8.4
  4.2
```

 x_4 enters and x_2 leaves

```
19.5
     -2.250000x_1 + 0.250000x_{27} - 0.875000x_{16} - 3.375000x_2
                                      x_{15}
   1.5
     -0.250000x_1 + 0.250000x_{27} - 0.375000x_{16} + 0.125000x_2
                                      -0.875000x_6 + 0.125000x_7 + 1.0000000x_8 - 0
x_3
  4.0
     x_{17}
  9.0
     +2.500000x_1 + 0.500000x_{27} + 0.750000x_{16} + 2.750000x_2 - 4.000000x_5 - 2.250000x_6 - 4.250000x_7
x_{18}
     2.0
                                                        +1.
x_{19}
     -2.250000x_1 + 1.250000x_{27} - 0.875000x_{16} + 0.625000x_2
                                      -1.375000x_6 -1.375000x_7 +3.0000000x_8 -0
  15.5
x_{20}
     16.0
x_{21}
  13.0
                  -0.500000x_{16} - 1.500000x_2 - 1.000000x_5 - 2.500000x_6 - 0.500000x_7
x_{22}
  13.5
     x_{23}
x_{24}
  7.5
     11.0
     +2.500000x_1 -0.500000x_{27} -0.250000x_{16} +0.750000x_2
                                      +1.750000x_6 -2.250000x_7 +2.0000000x_8 +0
x_{25}
     6.0
x_{26}
     x_4
  1.5
  15.0
     +2.000000x_1 - 1.000000x_{27}
                               +5.000000x_5 -1.000000x_6 +2.000000x_7 -4.000000x_8 -5
x_{28}
     7.5
x_{29}
     4.5
```

 x_5 enters and x_{24} leaves

```
-3.375000x_6 -1.375000x_7 +5.0000000x_8 -2
 19.5
   -2.250000x_1 + 0.250000x_{27} - 0.875000x_{16} - 3.375000x_2
x_{15}
 1.5
   -0.250000x_1 + 0.250000x_{27} - 0.375000x_{16} + 0.125000x_2
                       x_3
x_{17}
 11.5
   x_{18}
 3.0
   6.5
   x_{19}
   -2.250000x_1 + 1.250000x_{27} - 0.875000x_{16} + 0.625000x_2
                       -1.375000x_6 -1.375000x_7 +3.0000000x_8 -0
 15.5
x_{20}
   14.5
x_{21}
x_{22}
   11.5
x_{23}
 15.0
   1.5
   x_5
   +2.500000x_1 -0.500000x_{27} -0.250000x_{16} +0.750000x_2
                       +1.750000x_6 -2.250000x_7 +2.0000000x_8 +0
 11.0
x_{25}
 4.5
   x_{26}
   x_4
 3.0
x_{28}
 22.5
   x_{29}
 13.5
 6.0
```

 x_2 enters and x_{22} leaves

```
-3.000000x_1 + 0.333333x_{27} + 0.333333x_{16} + 1.666667x_{22} - 0.333333x_{24} + 0.666667x_6 - 1.666667x_7 + 4.066667x_7 + 4.06667x_7 + 4.06667x_7 + 4.06667x_7 + 4.06667x_7 + 4.066667x_7 + 4.066667x_7 + 4.066
                                      0.333333333333
x_{15}
  x_3
                                          2.20987654321
                                                                                                                                                               -0.222222x_1 + 0.246914x_{27} - 0.419753x_{16} - 0.061728x_{22} + 0.012346x_{24} - 1.024691x_6 + 0.135802x_7 + 1.024691x_6 + 0.012346x_7 + 0.012346x_7 + 0.012346x_8 + 0.01246x_8 + 0.01246
                                                                                                                                                            19.3086419753
x_{17}
x_{18}
                                         6.69135802469
                                                                                                                                                            +4.444444x_1 + 0.283951x_{27} - 0.382716x_{16} - 0.320988x_{22} + 0.864198x_{24} - 2.728395x_6 - 1.493827x_7 + 1.664198x_{24} - 1.464198x_{25} + 0.864198x_{25} + 0.86418x_{25} + 0.86418x
                                                                                                                                                              16.8641975309
 x_{19}
                                              19.049382716
                                                                                                                                                               x_{20}
                                                                                                                                                           +1.333333x_1 + 0.407407x_{27} - 1.592593x_{16} - 0.851852x_{22} + 0.370370x_{24} - 3.740741x_6 + 2.074074x_7 + 3.074074x_7 + 3
                                           24.2962962963
x_{21}
  x_2
                                          5.67901234568
                                                                                                                                                            3.07407407407
 x_{23}
                                                                                                                                                               x_5
                                          4.48148148148
                                                                                                                                                            +2.666667x_1 - 0.518519x_{27} - 0.518519x_{16} - 0.370370x_{22} + 0.074074x_{24} + 0.851852x_6 - 2.185185x_7 + 2.666667x_1 - 0.518519x_{27} - 0.518518x_{27} 
                                          15.2592592593
 x_{25}
                                                                                                                                                              +4.555556x_{1} - 0.617284x_{27} + 0.049383x_{16} - 1.345679x_{22} + 0.469136x_{24} - 2.938272x_{6} + 1.160494x_{7} - 1.048679x_{24} + 0.049383x_{16} - 0.049383x_{16} + 0.04938x_{16} + 0.04038x_{16} + 0.0
                                            19.975308642
  x_{26}
                                                                                                                                                               x_4
                                          2.43209876543
                                          37.4074074074
                                                                                                                                                            x_{28}
                                          27.555555556
                                                                                                                                                            x_{29}
                                         8.27160493827
                                                                                                                                                              z
```

 x_8 enters and x_4 leaves

```
25.4411764706
x_{15}
x_3
  8.14705882353
          -0.764706x_1 - 0.235294x_{27} - 0.088235x_{16} + 0.058824x_{22} - 0.500000x_{24}
                                                   -0.617647x_7 -2
x_{17}
  26.6764705882
          x_{18}
  16.7058823529
          +3.529412x_1 - 0.529412x_{27} + 0.176471x_{16} - 0.117647x_{22}
                                            -1.000000x_6 -2.764706x_7 -4
          -2.000000x_1 + 0.000000x_{27} - 0.000000x_{16} - 1.000000x_{22}
                                            -2.000000x_6 -1.000000x_7 +2
     12.0
x_{19}
  37.1470588235
          x_{20}
          45.9705882353
x_{21}
          +0.117647x_1 -0.117647x_{27} -0.294118x_{16} -0.470588x_{22}
                                            -1.000000x_6 -0.058824x_7 -0
x_2
  6.82352941176
  4.14705882353
          x_{23}
  2.76470588235
          -0.176471x_1 + 0.176471x_{27} - 0.058824x_{16} - 0.294118x_{22}
                                            -1.000000x_6 -0.411765x_7 +0
x_5
          27.7058823529
x_{25}
  13.8235294118
          x_{26}
          x_8
  5.79411764706
  5.64705882353
          x_{28}
  21.1176470588
          +0.588235x_1 +0.411765x_{27} -0.470588x_{16} -1.352941x_{22}
                                            -2.000000x_6 -4.294118x_7 +2
x_{29}
  12.2058823529
          z
```

 x_{14} enters and x_{28} leaves

```
-1.626712x_1 + 0.294521x_{27} - 0.065068x_{16} - 0.023973x_{22} - 0.232877x_{24} - 6.335616x_6 - 1.585616x_7 + 0.002377x_{24} - 0.00277x_{24} - 0.0027x_{24} - 0.0027x_{
                                                               31.8424657534
x_{15}
                                                                                                                                                                                                                                             -0.421233x_1 - 0.047945x_{27} - 0.256849x_{16} - 0.147260x_{22} - 0.287671x_{24} - 1.061644x_6 - 0.311644x_7 - 0.047945x_{27} - 0.04794x_{27} - 0.04784x_{27} 
                                                               8.74657534247
   x_3
                                                               33.1164383562
                                                                                                                                                                                                                                          x_{17}
                                                                                                                                                                                                                                          +3.219178x_{1} - 0.698630x_{27} + 0.328767x_{16} + 0.068493x_{22} - 0.191781x_{24} - 0.041096x_{6} - 3.041096x_{7} - 0.041096x_{7} + 0.041096x_{7} - 0.041006x_{7} - 0.04100
x_{18}
                                                               16.1643835616
                                                                                                                                                                                                                                            -0.869863x_1 + 0.616438x_{27} - 0.554795x_{16} - 1.678082x_{22} + 0.698630x_{24} - 5.493151x_6 + 0.006849x_7 + 0.006840x_7 + 0.00660x_7 + 0.00660x_7 + 0.00660x_7 + 0.00660x_7 + 0.0060x_7 + 0.0060x
                                                               13.9726027397
 x_{19}
                                                               39.0616438356
                                                                                                                                                                                                                                            x_{20}
                                                                                                                                                                                                                                        +1.469178x_1 - 0.198630x_{27} - 1.421233x_{16} - 1.681507x_{22} - 0.191781x_{24} - 6.541096x_6 + 1.208904x_7 - 0.191781x_{24} - 0.191781x_{2
                                                               49.6643835616
 x_{21}
   x_2
                                                                    6.6301369863
                                                                                                                                                                                                                                            +0.006849x_1 - 0.178082x_{27} - 0.239726x_{16} - 0.404110x_{22} - 0.068493x_{24} - 0.657534x_6 - 0.157534x_7 - 0.006849x_{24} - 0.006849x_{25} - 0.006849x_{27} - 0.006840x_{27} - 0.006840x_{2
                                                                                                                                                                                                                                          6.71917808219
 x_{23}
 x_5
                                                               2.72602739726
                                                                                                                                                                                                                                            31.1095890411
                                                                                                                                                                                                                                          x_{25}
                                                                                                                                                                                                                                            11.0
 x_{26}
                                                                                                                                                                                                                                            +0.345890x_1 +0.006849x_{27} -0.106164x_{16} -0.407534x_{22} +0.041096x_{24} -1.705479x_6 +0.044521x_7 +0.006849x_{27} -0.006849x_{27} -0.006840x_{27} -0.00
                                                              7.32191780822
     x_8
                                                        0.657534246575
                                                                                                                                                                                                                                          +0.376712x_1+0.205479x_{27}-0.184932x_{16}-0.226027x_{22}+0.232877x_{24}-1.164384x_6+0.335616x_7+0.206027x_{22}+0.206027x_{23}+0.206027x_{24}+0.206027x_{25}+0.206027x_{25}+0.206027x_{25}+0.206027x_{25}+0.206027x_{25}+0.206027x_{25}+0.206027x_{25}+0.206027x_{25}+0.206027x_{25}+0.206027x_{25}+0.206027x_{25}+0.206027x_{25}+0.206027x_{25}+0.206027x_{25}+0.206027x_{25}+0.206027x_{25}+0.206027x_{25}+0.206027x_{25}+0.206027x_{25}+0.206027x_{25}+0.206027x_{25}+0.206027x_{25}+0.206027x_{25}+0.206027x_{25}+0.206027x_{25}+0.206027x_{25}+0.206027x_{25}+0.206027x_{25}+0.206027x_{25}+0.206027x_{25}+0.206027x_{25}+0.206027x_{25}+0.206027x_{25}+0.206027x_{25}+0.206027x_{25}+0.206027x_{25}+0.206027x_{25}+0.206027x_{25}+0.206027x_{25}+0.206027x_{25}+0.206027x_{25}+0.206027x_{25}+0.206027x_{25}+0.206027x_{25}+0.206027x_{25}+0.206027x_{25}+0.206027x_{25}+0.206027x_{25}+0.206027x_{25}+0.206027x_{25}+0.206027x_{25}+0.206027x_{25}+0.206027x_{25}+0.206027x_{25}+0.206027x_{25}+0.206027x_{25}+0.206027x_{25}+0.206027x_{25}+0.206027x_{25}+0.206027x_{25}+0.206027x_{25}+0.206027x_{25}+0.206027x_{25}+0.206027x_{25}+0.206027x_{25}+0.206027x_{25}+0.206027x_{25}+0.206027x_{25}+0.206027x_{25}+0.206027x_{25}+0.206027x_{25}+0.206027x_{25}+0.206027x_{25}+0.206027x_{25}+0.206027x_{25}+0.206027x_{25}+0.206027x_{25}+0.206027x_{25}+0.206027x_{25}+0.206027x_{25}+0.206027x_{25}+0.206027x_{25}+0.206027x_{25}+0.206027x_{25}+0.206027x_{25}+0.206027x_{25}+0.206027x_{25}+0.206027x_{25}+0.206027x_{25}+0.206027x_{25}+0.206027x_{25}+0.206027x_{25}+0.206027x_{25}+0.206027x_{25}+0.206027x_{25}+0.206027x_{25}+0.206027x_{25}+0.206027x_{25}+0.206027x_{25}+0.206027x_{25}+0.206027x_{25}+0.206027x_{25}+0.206027x_{25}+0.206027x_{25}+0.206027x_{25}+0.206027x_{25}+0.206027x_{25}+0.206027x_{25}+0.206027x_{25}+0.206027x_{25}+0.206027x_{25}+0.206027x_{25}+0.206027x_{25}+0.206027x_{25}+0.206027x_{25}+0.206027x_{25}+0.206027x_{25}+0.206027x_{25}+0.206027x_{25}+0.206027x_{25}+0.206027x_{25}+0.206027x_{25}+0.206027x_{25}+0.206027x_{25}+0.206027x_{25}+0.206027x_{25}+0.206027x_{2
 x_{14}
                                                              20.1506849315
                                                                                                                                                                                                                                          +0.034247x_1+0.109589x_{27}-0.198630x_{16}-1.020548x_{22}-0.342466x_{24}-0.287671x_6-4.787671x_7+0.03640x_{24}-0.03670x_{25}-0.03640x_{25}-0.03640x_{25}-0.03640x_{25}-0.03640x_{25}-0.03640x_{25}-0.03640x_{25}-0.03640x_{25}-0.03640x_{25}-0.03640x_{25}-0.03640x_{25}-0.03640x_{25}-0.03640x_{25}-0.03640x_{25}-0.03640x_{25}-0.03640x_{25}-0.03640x_{25}-0.03640x_{25}-0.03640x_{25}-0.03640x_{25}-0.03640x_{25}-0.03640x_{25}-0.03640x_{25}-0.03640x_{25}-0.03640x_{25}-0.03640x_{25}-0.03640x_{25}-0.03640x_{25}-0.03640x_{25}-0.03640x_{25}-0.03640x_{25}-0.03640x_{25}-0.03640x_{25}-0.03640x_{25}-0.03640x_{25}-0.03640x_{25}-0.03640x_{25}-0.03640x_{25}-0.03640x_{25}-0.03640x_{25}-0.03640x_{25}-0.03640x_{25}-0.03640x_{25}-0.03640x_{25}-0.03640x_{25}-0.03640x_{25}-0.03640x_{25}-0.03640x_{25}-0.03640x_{25}-0.03640x_{25}-0.03640x_{25}-0.03640x_{25}-0.03640x_{25}-0.03640x_{25}-0.03640x_{25}-0.03640x_{25}-0.03640x_{25}-0.03640x_{25}-0.03640x_{25}-0.03640x_{25}-0.03640x_{25}-0.03640x_{25}-0.03640x_{25}-0.03640x_{25}-0.03640x_{25}-0.03640x_{25}-0.03640x_{25}-0.03640x_{25}-0.03640x_{25}-0.03640x_{25}-0.03640x_{25}-0.03640x_{25}-0.03640x_{25}-0.03640x_{25}-0.03640x_{25}-0.03640x_{25}-0.03640x_{25}-0.03640x_{25}-0.03640x_{25}-0.03640x_{25}-0.03640x_{25}-0.03640x_{25}-0.03640x_{25}-0.03640x_{25}-0.03640x_{25}-0.03640x_{25}-0.03640x_{25}-0.03640x_{25}-0.03640x_{25}-0.03640x_{25}-0.03640x_{25}-0.03640x_{25}-0.03640x_{25}-0.03640x_{25}-0.03640x_{25}-0.03640x_{25}-0.03640x_{25}-0.03640x_{25}-0.03640x_{25}-0.03640x_{25}-0.03640x_{25}-0.03640x_{25}-0.03640x_{25}-0.03640x_{25}-0.03640x_{25}-0.03640x_{25}-0.03640x_{25}-0.03640x_{25}-0.03640x_{25}-0.03640x_{25}-0.03640x_{25}-0.03640x_{25}-0.03640x_{25}-0.03640x_{25}-0.03640x_{25}-0.03640x_{25}-0.03640x_{25}-0.03640x_{25}-0.03640x_{25}-0.03640x_{25}-0.03640x_{25}-0.03640x_{25}-0.03640x_{25}-0.03640x_{25}-0.03640x_{25}-0.03640x_{25}-0.03640x_{25}-0.03640x_{25}-0.03640x_{25}-0.03640x_{25}-0.03640x_{25}-0.03640x_{25}-0.03640x_{25}-0.03640x_{25}-0.03640x_{25}-0.03640x_{25}-0.03640x_{25}-0.03640x_{25}-0
   x_{29}
                                                                                                                                                                                                                                            12.6506849315
```

 x_{-1} enters and Final Dictionary Solution: 12.6506849315 Num Pivots: 7