```
8.0
        +2.000000x_1 +3.000000x_2 -1.000000x_3 +1.000000x_4
                                                      x_{15}
                                    -1.000000x_4 + 2.000000x_5 - 1.000000x_6 - 1.000000x_7 + 3.000000x_8
    14.0
                 -2.000000x_2
x_{16}
    3.0
        x_{17}
x_{18}
   11.0
                  -1.000000x_2 - 2.000000x_3 - 2.000000x_4 - 2.000000x_5 - 3.000000x_6 - 2.000000x_7
                                                      -1.000000x_6 + 1.000000x_7
    1.0
        -2.000000x_1 - 2.000000x_2 - 3.000000x_3
                                                                                  +1.00
x_{19}
   10.0
        x_{20}
                                                      14.0
        -1.000000x_1 + 1.000000x_2 + 2.000000x_3 + 3.000000x_4
x_{21}
        +3.000000x_1 +1.000000x_2 +2.000000x_3 -1.000000x_4 -2.000000x_5 +2.000000x_6
   12.0
                                                                         -3.000000x_8 + 2.00
x_{22}
   14.0
        -1.000000x_1 + 1.000000x_2
                                             +1.000000x_5 -3.000000x_6 +3.000000x_7 -3.000000x_8
x_{23}
x_{24}
    9.0
        -3.000000x_1
                                    5.0
        x_{25}
        -3.000000x_1 - 2.000000x_2 - 2.000000x_3 + 1.000000x_4
    1.0
                                                      -1.000000x_6 + 2.000000x_7
x_{26}
        +3.000000x_1 -3.000000x_2 -3.000000x_3 +3.000000x_4
                                                      +3.000000x_6 -3.000000x_7
    14.0
                                                                                  +3.00
x_{27}
    9.0
        +3.000000x_1 - 1.000000x_2
                                    +3.000000x_4 +3.000000x_5
                                                                -1.000000x_7 -3.000000x_8 +3.00
x_{28}
    4.0
        +2.000000x_1 +1.000000x_2 -1.000000x_3
                                             x_{29}
    0.0
        +2.000000x_1 -2.000000x_2 +2.000000x_3 +1.000000x_4
                                                                -1.000000x_7 - 2.000000x_8 - 1.00
```

No initialization required –; Proceed to Optimize.

```
+2.000000x_1 +3.000000x_2 -1.000000x_3 +1.000000x_4
    8.0
                                                      x_{15}
x_{16}
    14.0
                 -2.000000x_2
                                    -1.000000x_4 + 2.000000x_5 - 1.000000x_6 - 1.000000x_7 + 3.000000x_8
    3.0
        x_{17}
   11.0
                 -1.000000x_2 -2.000000x_3 -2.000000x_4 -2.000000x_5 -3.000000x_6 -2.000000x_7
x_{18}
                                                                                  -1.00
        -2.000000x_1 -2.000000x_2 -3.000000x_3
                                                      -1.000000x_6 + 1.000000x_7
                                                                                  +1.00
    1.0
x_{19}
        10.0
x_{20}
   14.0
        -1.000000x_1 + 1.000000x_2 + 2.000000x_3 + 3.000000x_4
                                                      x_{21}
x_{22}
   12.0
        +3.000000x_1 +1.000000x_2 +2.000000x_3 -1.000000x_4 -2.000000x_5 +2.000000x_6
                                                                         -3.000000x_8 + 2.00
   14.0
        -1.000000x_1 + 1.000000x_2
                                             +1.000000x_5 -3.000000x_6 +3.000000x_7 -3.000000x_8
x_{23}
    9.0
        -3.000000x_1
                                    x_{24}
        5.0
x_{25}
    1.0
        -3.000000x_1 - 2.000000x_2 - 2.000000x_3 + 1.000000x_4
                                                      -1.000000x_6 + 2.000000x_7
                                                                                  +1.00
x_{26}
    14.0
        +3.000000x_1 -3.000000x_2 -3.000000x_3 +3.000000x_4
                                                      +3.000000x_6 -3.000000x_7
                                                                                  +3.00
x_{27}
                                    +3.000000x_4 +3.000000x_5
                                                                -1.000000x_7 -3.000000x_8 +3.00
    9.0
        +3.000000x_1 - 1.000000x_2
x_{28}
                                             4.0
        +2.000000x_1 +1.000000x_2 -1.000000x_3
x_{29}
    0.0
        +2.000000x_1 -2.000000x_2 +2.000000x_3 +1.000000x_4
                                                                -1.000000x_7 - 2.000000x_8 - 1.00
```

 x_1 enters and x_{26} leaves

```
-0.666667x_{26} + 1.666667x_2 - 2.333333x_3 + 1.666667x_4
    8.6666666667
                                                                -3.666667x_6 -0.666667x_7 -2.00
x_{15}
                                             14.0
                           -2.000000x_2
x_{16}
    3.33333333333
                x_{17}
        11.0
                           -1.000000x_2 - 2.000000x_3 - 2.000000x_4 - 2.000000x_5 - 3.000000x_6 - 2.000000x_7
x_{18}
   0.3333333333333
                +0.666667x_{26} -0.666667x_2 -1.666667x_3 -0.666667x_4
                                                                -0.3333333x_6 -0.3333333x_7
x_{19}
    9.6666666667
                +0.333333x_{26} - 1.333333x_2 - 1.333333x_3 + 2.666667x_4 - 3.000000x_5 + 3.333333x_6 - 2.666667x_7
x_{20}
    13.666666667
                +0.333333x_{26}+1.666667x_2+2.666667x_3+2.666667x_4
                                                                +3.333333x_6 + 2.333333x_7 + 1.00
x_{21}
x_{22}
        13.0
                -1.000000x_{26} -1.000000x_2
                                                       -2.000000x_5 + 1.000000x_6 + 2.000000x_7 - 3.000
                +0.333333x_{26} + 1.666667x_2 + 0.666667x_3 - 0.3333333x_4 + 1.000000x_5 - 2.666667x_6 + 2.333333x_7 - 3.00
    13.666666667
x_{23}
                x_{24}
        8.0
                x_{25}
    4.33333333333
   0.333333333333
                -0.333333x_{26} -0.666667x_2 -0.666667x_3 +0.333333x_4
                                                                -0.3333333x_6 + 0.666667x_7
x_1
                -1.000000x_{26} -5.000000x_2 -5.000000x_3 +4.000000x_4
        15.0
                                                                +2.000000x_6 -1.000000x_7
x_{27}
        10.0
                x_{28}
    4.66666666667
                x_{29}
   0.66666666667
                -0.666667x_{26} -3.333333x_2 +0.666667x_3 +1.666667x_4
                                                                -0.666667x_6 + 0.333333x_7 - 2.00
```

 x_3 enters and x_{19} leaves

```
-1.600000x_{26} + 2.600000x_2 + 1.400000x_{19} + 2.600000x_4
                                         x_{15}
   8.2
                           -1.000000x_4 + 2.000000x_5 - 1.000000x_6 - 1.000000x_7 + 3.000000x_8
x_{16}
   14.0
             -2.000000x_2
   3.6
      x_{17}
  10.6
      -0.800000x_{26} - 0.200000x_2 + 1.200000x_{19} - 1.200000x_4 - 2.000000x_5 - 2.600000x_6 - 1.600000x_7
x_{18}
   0.2
      +0.400000x_{26} -0.400000x_2 -0.600000x_{19} -0.400000x_4
                                         -0.200000x_6 -0.200000x_7
x_{20}
   9.4
      14.2
      +1.400000x_{26} +0.600000x_2 -1.600000x_{19} +1.600000x_4
                                         +2.800000x_6 +1.800000x_7 +1.0000000x_8 -0
x_{21}
x_{22}
  13.0
                                  -1.000000x_{26} - 1.000000x_2
      x_{23}
  13.8
   8.4
      x_{24}
   4.0
             x_{25}
   0.2
      -0.600000x_{26} -0.400000x_2 +0.400000x_{19} +0.600000x_4
                                         -0.200000x_6 + 0.800000x_7
x_1
      -3.000000x_{26} -3.000000x_2 +3.000000x_{19} +6.000000x_4
                                         +3.000000x_6 -0.000000x_7
                                                              +3
x_{27}
   14.0
      x_{28}
   9.6
   4.2
      x_{29}
   0.8
      -0.400000x_{26} -3.600000x_2 -0.400000x_{19} +1.400000x_4
                                         z
```

 x_4 enters and x_3 leaves

```
9.5
                    -2.500000x_{19} -6.500000x_3
x_{15}
      +1.000000x_{26}
   13.5
      x_{16}
      5.0
x_{17}
x_{18}
   10.0
      -2.000000x_{26} + 1.000000x_2 + 3.000000x_{19} + 3.000000x_3 - 2.000000x_5 - 2.000000x_6 - 1.000000x_7
      +1.000000x_{26} -1.000000x_2 -1.500000x_{19} -2.500000x_3
   0.5
                                          -0.500000x_6 - 0.500000x_7
x_4
   11.0
      +3.000000x_{26} -4.000000x_2 -4.000000x_{19} -8.000000x_3
                                   x_{20}
   15.0
      +3.000000x_{26} -1.000000x_2 -4.000000x_{19} -4.000000x_3
                                          x_{21}
   13.0
      -1.000000x_{26} -1.000000x_2
                                    x_{22}
   13.5
             x_{23}
   6.5
      x_{24}
      2.5
x_{25}
   0.5
              -1.000000x_2 -0.500000x_{19} -1.500000x_3
                                           -0.500000x_6 + 0.500000x_7
x_1
   17.0
      +3.000000x_{26} - 9.000000x_2 - 6.000000x_{19} - 15.000000x_3
                                          -0.000000x_6 -3.000000x_7
x_{27}
   12.0
      x_{28}
             -1.000000x_2 - 1.000000x_{19} - 4.000000x_3 - 2.000000x_5 + 2.000000x_6 + 2.000000x_7 - 3.000000x_8
   5.0
x_{29}
   1.5
      +1.000000x_{26} -5.000000x_2 -2.500000x_{19} -3.500000x_3
```

 x_9 enters and x_{25} leaves

```
12.0
x_{15}
 13.0
    x_{16}
x_{17}
  4.0
    8.0
    +0.400000x_{26} - 4.600000x_2 - 1.400000x_{19} - 3.000000x_3 - 2.800000x_5 - 6.400000x_6 - 0.600000x_7
x_{18}
    1.0
x_4
 11.0
    x_{20}
    +3.000000x_{26} - 1.000000x_2 - 4.000000x_{19} - 4.000000x_3 + 0.000000x_5 + 2.000000x_6 + 1.000000x_7 + 1.000000x_8
 15.0
x_{21}
x_{22}
 16.0
    -4.600000x_{26} + 7.400000x_2 + 6.600000x_{19} + 9.000000x_3 - 0.800000x_5 + 7.600000x_6 + 1.400000x_7 - 3.000000x_8
 13.0
    x_{23}
  5.0
    x_{24}
  1.0
    x_9
  1.0
    x_1
    x_{27}
 23.0
 18.0
    x_{28}
        -1.000000x_2 - 1.000000x_{19} - 4.000000x_3 - 2.000000x_5 + 2.000000x_6 + 2.000000x_7 - 3.000000x_8
x_{29}
  5.0
  2.0
```

 x_5 enters and x_{29} leaves

```
14.5
x_{15}
 17.5
  x_{16}
 8.0
  x_{17}
 1.0
  +0.400000x_{26} - 3.200000x_2 + 0.000000x_{19} + 2.600000x_3 + 1.400000x_{29} - 9.200000x_6 - 3.400000x_7 + 4.200000x_8
x_{18}
  1.5
x_4
 3.5
  x_{20}
  15.0
x_{21}
 14.0
  x_{22}
  x_{23}
 15.0
x_{24}
  11.0
  2.0
x_9
 1.5
  x_1
 29.0
  x_{27}
 31.5
  x_{28}
 2.5
     x_5
  +0.400000x_{26} -3.700000x_2 -1.500000x_{19} \overline{-2.400000x_3 -0.100000x_{29} -0.200000x_6 -0.400000x_7 -2.300000x_8}
 2.5
```

 x_{26} enters and x_9 leaves

```
+1.666667x_9 + 2.166667x_2 - 0.833333x_{19} - 4.666667x_3 - 0.166667x_{29} - 2.333333x_6 - 1.333333x_7 - 2.566667x_9 - 2.333333x_6 - 2.333333x_7 - 2.566667x_9 - 2.333333x_6 - 2.333333x_6 - 2.333333x_7 - 2.566667x_9 - 2.3333333x_6 - 2.333333x_7 - 2.566667x_9 - 2.3333333x_7 - 2.566667x_9 - 2.333333x_7 - 2.566667x_9 - 2.33333x_7 - 2.566667x_9 - 2.5666667x_9 - 2.56666667x_9 - 2.56666667x_9 - 2.56666667x_9 - 2.5666667x_9 - 2.56666667x_9 - 2.56666667x_9 - 2.56666667x_9 - 2.56
                                        11.1666666667
x_{15}
                                        16.8333333333
                                                                                                                                                                  +0.333333x_9 - 4.166667x_2 - 1.166667x_{19} - 3.333333x_3 - 0.833333x_{29} - 0.666667x_6 + 1.333333x_7 + 0.5033333x_7 + 0.503333x_7 + 0.5033333x_7 + 0.503333x_7 + 0.503333x_7 + 0.503333x_7 + 0.503333x_7 + 0.503333x_7 + 0.503333x_7 + 0.50333x_7 + 0.50333x_7 + 0.5033x_7 + 0.503x_7 + 0.50
x_{16}
 x_{17}
                                                                              15.0
                                                                                                                                                                  x_{18}
                                        1.66666666667
                                                                                                                                                                  -0.333333x_9 - 2.333333x_2 + 0.666667x_{19} + 3.3333333x_3 + 1.3333333x_{29} - 8.333333x_6 - 3.333333x_7 + 4.003333333x_8 + 1.33333333x_{19} - 8.3333333x_{19} + 1.3333333x_{19} + 1.333333x_{19} + 1.33333x_{19} + 1.33333x_{19} + 1.3333x_{19} + 1.333x_{19} + 1.333x_{19} + 1.33x_{19} + 1.33x_{19}
                                       2.16666666667
                                                                                                                                                                  x_4
                                                                                                                                                                  x_{20}
                                                                                8.5
                                                                              20.0
                                                                                                                                                                  x_{21}
                                        6.33333333333
                                                                                                                                                                +3.833333x_9 - 2.166667x_2 - 0.666667x_{19} + 2.166667x_3 + 1.166667x_{29} - 3.166667x_6 - 0.166667x_7 + 0.506667x_8 + 0.006667x_8 + 0.00667x_8 + 0.00667x_8 + 0.00667x_8 + 0.006667x_8 + 0.006667x_
x_{22}
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           -0.500000x_3 -0.500000x_{29} -1.500000x_6 +3.500000x_7 -4.5000000x_7
                                                                              16.0
                                                                                                                                                                  -0.500000x_9 + 1.500000x_2
  x_{23}
                                          10.666666667
                                                                                                                                                                 +0.166667x_9 - 0.833333x_2 - 0.333333x_{19} - 0.166667x_3 - 1.166667x_{29} - 1.833333x_6 - 0.833333x_7 - 1.56667x_{29} - 0.833333x_6 - 0.833333x_7 - 0.83333x_7 - 0.8333x_7 - 0.833x_7 - 0.8
  x_{24}
                                        1.6666666667
                                                                                                                                                                  -0.833333x_9 + 2.166667x_2 + 1.666667x_{19} + 1.8333333x_3 - 0.166667x_{29} + 2.166667x_6 + 0.166667x_7 - 0.50667x_9 + 0.006667x_9 + 0.00667x_9 + 0.006667x_9 + 0.00667x_9 + 0.00667x_9 + 0.006667x_9 + 0.006667x_
  x_{26}
                                                                                0.5
                                                                                                                                                                 +0.500000x_9 -1.000000x_2 -0.500000x_{19} -1.500000x_3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    -0.500000x_6 + 0.500000x_7
  x_1
                                                                              22.0
                                                                                                                                                                  x_{27}
                                                                            24.5
                                                                                                                                                                  x_{28}
                                                                                2.5
                                                                                                                                                                                                                                                                x_5
                                        3.16666666667
```

 x_6 enters and x_{18} leaves

```
x_{15}
16.7
 x_{16}
15.9
 x_{17}
x_6
0.2
 2.5
 x_4
9.6
 x_{20}
 21.7
x_{21}
5.7
 x_{22}
 15.7
x_{23}
x_{24}
10.3
 2.1
 x_{26}
 0.4
x_1
 23.3
x_{27}
25.8
 x_{28}
2.7
 x_5
 3.3
```

 x_{-1} enters and Final Dictionary Solution: 3.3 Num Pivots: 7