

MatrixForm[N[LinearSolve[m1, p1]]]

$$\begin{pmatrix} 1.96667 \\ -0.966667 \\ -1.5 \\ -0.5 \\ -0.633333 \\ 1.63333 \end{pmatrix}$$

a = {{2, 1, 3, 1, 1}, {1, 1, 4, 1, 3}, {2, 1, -1, 2, 6}, {2, 2, 4, 7, 5}, {1, -1, -3, 2, 1}}
{2, 1, 3, 1, 1}, {1, 1, 4, 1, 3}, {2, 1, -1, 2, 6}, {2, 2, 4, 7, 5}, {1, -1, -3, 2, 1}}

In[369]:= **MatrixForm**[a]

Out[369]/MatrixForm=

$$\begin{pmatrix} 2 & 1 & 3 & 1 & 1 \\ 1 & 1 & 4 & 1 & 3 \\ 2 & 1 & -1 & 2 & 6 \\ 2 & 2 & 4 & 7 & 5 \\ 1 & -1 & -3 & 2 & 1 \end{pmatrix}$$

d = {{1}, {14}, {10}, {10}, {14}}

{1}, {14}, {10}, {10}, {14}}

In[370]:= **MatrixForm**[d]

Out[370]/MatrixForm=

$$\begin{pmatrix} 1 \\ 14 \\ 10 \\ 10 \\ 14 \end{pmatrix}$$

In[371]:= **MatrixForm**[N[LinearSolve[a, d]]]

Out[371]/MatrixForm=

$$\begin{pmatrix} 1.01799 \\ -19.0036 \\ 4.11151 \\ 0.679856 \\ 4.95324 \end{pmatrix}$$

In[372]:= **m** = {{3, -1, 0, -1, -1, 0}, {-1, 3, 0, -1, 0, -1}, {0, 0, 3, -1, -1, -1},
{-1, -1, -1, 3, 0, 0}, {-1, 0, -1, 0, 3, -1}, {1, 1, 1, 1, 1, 1}}

Out[372]= {{3, -1, 0, -1, -1, 0}, {-1, 3, 0, -1, 0, -1}, {0, 0, 3, -1, -1, -1},
{-1, -1, -1, 3, 0, 0}, {-1, 0, -1, 0, 3, -1}, {1, 1, 1, 1, 1, 1}}

MatrixForm[m]

$$\begin{pmatrix} 3 & -1 & 0 & -1 & -1 & 0 \\ -1 & 3 & 0 & -1 & 0 & -1 \\ 0 & 0 & 3 & -1 & -1 & -1 \\ -1 & -1 & -1 & 3 & 0 & 0 \\ -1 & 0 & -1 & 0 & 3 & -1 \\ 1 & 1 & 1 & 1 & 1 & 1 \end{pmatrix}$$

In[373]:= **p** = {{**8**}, {-**6**}, {-**5**}, {-**1**}, {-**4**}, {**0**}}

Out[373]= {{**8**}, {-**6**}, {-**5**}, {-**1**}, {-**4**}, {**0**}}

In[374]:= **MatrixForm**[**N**[**LinearSolve**[**m**, **p**]]]

Out[374]//MatrixForm=

$$\begin{pmatrix} 1.96667 \\ -0.966667 \\ -1.5 \\ -0.5 \\ -0.633333 \\ 1.63333 \end{pmatrix}$$

c = {{**5**, -**1**, **0**, -**1**, -**1**, **0**}, {-**1**, **5**, **0**, -**1**, **0**, -**1**}, {**0**, **0**, **5**, -**1**, -**1**, -**1**},
 {-**1**, -**1**, -**1**, **5**, **0**, **0**}, {-**1**, **0**, -**1**, **0**, **5**, -**1**}, {**0**, -**1**, -**1**, **0**, -**1**, **5**}}
 {{**5**, -**1**, **0**, -**1**, -**1**, **0**}, {-**1**, **5**, **0**, -**1**, **0**, -**1**}, {**0**, **0**, **5**, -**1**, -**1**, -**1**},
 {-**1**, -**1**, -**1**, **5**, **0**, **0**}, {-**1**, **0**, -**1**, **0**, **5**, -**1**}, {**0**, -**1**, -**1**, **0**, -**1**, **5**}}

MatrixForm[**c**]

$$\begin{pmatrix} 5 & -1 & 0 & -1 & -1 & 0 \\ -1 & 5 & 0 & -1 & 0 & -1 \\ 0 & 0 & 5 & -1 & -1 & -1 \\ -1 & -1 & -1 & 5 & 0 & 0 \\ -1 & 0 & -1 & 0 & 5 & -1 \\ 0 & -1 & -1 & 0 & -1 & 5 \end{pmatrix}$$

b = {{**5/2**}, {**1/2**}, {-**1/2**}, {**1/2**}, {**1/2**}, {**5/2**}}

{{ $\frac{5}{2}$ }, { $\frac{1}{2}$ }, {- $\frac{1}{2}$ }, { $\frac{1}{2}$ }, { $\frac{1}{2}$ }, { $\frac{5}{2}$ }}

In[375]:= **MatrixForm**[**b**]

Out[375]//MatrixForm=

$$\begin{pmatrix} \frac{5}{2} \\ \frac{1}{2} \\ \frac{1}{2} \\ -\frac{1}{2} \\ \frac{1}{2} \\ \frac{1}{2} \\ \frac{5}{2} \end{pmatrix}$$

In[376]:= **MatrixForm**[**N**[**LinearSolve**[**c**, **b**]]]

Out[376]//MatrixForm=

$$\begin{pmatrix} 0.760714 \\ 0.475 \\ 0.210714 \\ 0.389286 \\ 0.439286 \\ 0.725 \end{pmatrix}$$