In[ ]:=
```
A = {{1, 0, 0, 0, 0}, {1 / 2, 7 / 6, 1 / 3, 0, 0},
    {0, 1 / 3, 4 / 3, 1 / 3, 0}, {0, 0, 1 / 3, 7 / 6, 1 / 2}, {0, 0, 0, 0, 1}};
```

In[ ]:=
```
TraditionalForm[A]
```

Out[ ]//TraditionalForm=

$$\begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ \frac{1}{2} & \frac{7}{6} & \frac{1}{3} & 0 & 0 \\ 0 & \frac{1}{3} & \frac{4}{3} & \frac{1}{3} & 0 \\ 0 & 0 & \frac{1}{3} & \frac{7}{6} & \frac{1}{2} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

In[ ]:=
```
Solve[A.{d0, d1, d2, d3, d4} == {p1, 2 A1, 2 A2, 2 A3, p11}, {d0, d1, d2, d3, d4}] // Simplify
```

Out[ ]=

$$\left\{\left\{\text{d0} \to \text{p1},\ \text{d1} \to \frac{1}{28}\,(52\,\text{A1} - 14\,\text{A2} + 4\,\text{A3} - 13\,\text{p1} - \text{p11}),\right.\right.$$
$$\left.\left.\text{d2} \to \frac{1}{8}\,(-4\,\text{A1} + 14\,\text{A2} - 4\,\text{A3} + \text{p1} + \text{p11}),\ \text{d3} \to \frac{1}{28}\,(4\,\text{A1} - 14\,\text{A2} + 52\,\text{A3} - \text{p1} - 13\,\text{p11}),\ \text{d4} \to \text{p11}\right\}\right\}$$

In[ ]:=
```
InvA = Inverse[A]
```

Out[ ]=

$$\left\{\{1, 0, 0, 0, 0\}, \left\{-\frac{13}{28}, \frac{13}{14}, -\frac{1}{4}, \frac{1}{14}, -\frac{1}{28}\right\},\right.$$
$$\left.\left\{\frac{1}{8}, -\frac{1}{4}, \frac{7}{8}, -\frac{1}{4}, \frac{1}{8}\right\}, \left\{-\frac{1}{28}, \frac{1}{14}, -\frac{1}{4}, \frac{13}{14}, -\frac{13}{28}\right\}, \{0, 0, 0, 0, 1\}\right\}$$

In[ ]:=
```
InvA.{p1, 2 A1, 2 A2, 2 A3, p11} // Simplify
```

Out[ ]=

$$\left\{\text{p1},\ \frac{1}{28}\,(52\,\text{A1} - 14\,\text{A2} + 4\,\text{A3} - 13\,\text{p1} - \text{p11}),\right.$$
$$\left.\frac{1}{8}\,(-4\,\text{A1} + 14\,\text{A2} - 4\,\text{A3} + \text{p1} + \text{p11}),\ \frac{1}{28}\,(4\,\text{A1} - 14\,\text{A2} + 52\,\text{A3} - \text{p1} - 13\,\text{p11}),\ \text{p11}\right\}$$