



$$\begin{aligned}
 R1 &:= 4\Omega & R3 &:= 8\Omega & R5 &:= 6\Omega & E1 &:= 20V & E6 &:= 15V \\
 R2 &:= 5\Omega & R4 &:= 3\Omega & R6 &:= 7\Omega & E3 &:= 17V
 \end{aligned}$$

By inspection, write the impedance matrix and voltage vector:

$$z := \begin{pmatrix} R1 + R2 + R3 & -R2 & -R3 \\ -R2 & R2 + R4 + R5 & -R5 \\ -R3 & -R5 & R3 + R5 + R6 \end{pmatrix} \quad v := \begin{pmatrix} E1 + E3 \\ 0 \\ E6 - E3 \end{pmatrix}$$

$$\text{lsolve}(z, v) \rightarrow \begin{pmatrix} \frac{9262}{2485} \cdot \frac{V}{\Omega} \\ \frac{5377}{2485} \cdot \frac{V}{\Omega} \\ \frac{68}{35} \cdot \frac{V}{\Omega} \end{pmatrix} = \begin{pmatrix} 3.727 \\ 2.164 \\ 1.943 \end{pmatrix} A$$