

Solution (#552)

$$\begin{aligned} A + D &= \begin{pmatrix} 0 & 14 \\ 6 & 3 \end{pmatrix} = D + A, & A^2 &= \begin{pmatrix} 1 & 8 \\ 0 & 9 \end{pmatrix}, & AC &= \begin{pmatrix} -5 & 4 & 3 \\ -6 & -3 & 0 \end{pmatrix}, \\ AD &= \begin{pmatrix} 11 & 12 \\ 18 & 0 \end{pmatrix}, & BA &= \begin{pmatrix} 0 & 3 \\ 3 & 12 \\ 1 & 2 \end{pmatrix}, & BC &= \begin{pmatrix} -2 & 1 & 0 \\ -7 & 8 & 9 \\ -1 & 2 & 3 \end{pmatrix}, & BD &= \begin{pmatrix} 6 & 0 \\ 9 & 36 \\ -1 & 12 \end{pmatrix}, \\ CB &= \begin{pmatrix} 9 & 3 \\ 3 & 0 \end{pmatrix}, & DA &= \begin{pmatrix} -1 & 34 \\ 6 & 12 \end{pmatrix}, & DC &= \begin{pmatrix} -23 & 10 & -3 \\ -6 & 12 & 18 \end{pmatrix}, & D^2 &= \begin{pmatrix} 73 & -12 \\ -6 & 72 \end{pmatrix}. \end{aligned}$$