

b)

$$\begin{aligned} & A(BC - CD) + A(C - B)D - AB(C - D) \\ &= ABC - ACD + ACD - ABD - ABC + ABD \\ &= 0 \end{aligned}$$

Bài 3:

$$A = \begin{pmatrix} 3 & 1 & 2 \\ 4 & 8 & 0 \\ 0 & 1 & 2 \end{pmatrix} \text{ and } B = \begin{pmatrix} 0 & 5 & 2 & 1 \\ 1 & 8 & 0 & -6 \\ 1 & 4 & 3 & 7 \end{pmatrix}$$

a) AB

$$= \begin{pmatrix} 3 & 31 & 12 & 11 \\ 8 & 84 & 8 & -44 \\ 3 & 16 & 6 & 8 \end{pmatrix}$$

$$b) f(x) = x^3 - 3x + 2 = x^3 - 3x + 2x^0$$

$$\begin{aligned} \Rightarrow f(A) &= A^3 - 3A + 2I \\ &= \begin{pmatrix} 6 & 10 & 4 \\ 32 & 46 & 8 \\ 4 & 7 & 0 \end{pmatrix} \end{aligned}$$

Bài 4:

$$a) \begin{pmatrix} 1 & 5 \\ 2 & -1 \end{pmatrix}^{-1} = \begin{pmatrix} \frac{1}{11} & \frac{5}{11} \\ \frac{2}{11} & -\frac{1}{11} \end{pmatrix}$$