



Expand a determinant along a specified column

- 1 Using cofactor expansion along the first row, which shows the fully expanded determinant calculation?

$$\begin{bmatrix} 4 & -9 & -6 \\ -5 & -2 & -3 \\ -7 & 2 & 5 \end{bmatrix}$$

- A $4 \cdot (-2 \cdot 5 - -3 \cdot 2) - -9 \cdot (-5 \cdot 5 - -3 \cdot -7) + -6 \cdot (-5 \cdot 2 - -2 \cdot -7)$
- B $4 \cdot (1 \cdot 5 - -3 \cdot 2) - -9 \cdot (-5 \cdot 5 - -3 \cdot -7) + -6 \cdot (-5 \cdot 2 - 1 \cdot -7)$
- C $4 \cdot (-2 \cdot 5 - 2 \cdot -3) - -5 \cdot (-9 \cdot 5 - 2 \cdot -6) + -7 \cdot (-9 \cdot -3 - -2 \cdot -6)$

- 2 For the cofactor expansion along the first row, what is the value of the third term?

A 4	B 2	C 6
D -6	E -4	F 0

- 3 Which shows how to calculate the determinant of this matrix?

$$\begin{bmatrix} -7 & 6 \\ 3 & 1 \end{bmatrix}$$

- A $(-7 \cdot 1) - (6 \cdot 3)$
- B $(-7 \cdot 6) - (3 \cdot 1)$
- C $(-7 \cdot 3) - (6 \cdot 1)$

- 4 For the cofactor expansion along the first row, which shows the first term?

$$\begin{bmatrix} -7 & -7 & -4 \\ -2 & -1 & 7 \\ -9 & -5 & -2 \end{bmatrix}$$

- A $-4 \cdot (1)$
- B $- -7 \cdot (67)$
- C $-7 \cdot (37)$

- 5 What is the entry at row 1, column 2 of the cofactor matrix of this matrix of minors? Apply the sign pattern $(-1)^{i+j}$ to each entry of the matrix of minors.

A 7	B -1	C 3
D 0	E 4	F 1

- 6 What is the determinant of the minor matrix for the entry at row 3, column 3?

A 40	B 44	C 38
D 43	E 39	F 34

- 7 What is the determinant of the minor matrix for the entry at row 1, column 2?

A 5	B 4	C -1
D 10	E 1	F 2