A1 Determinants

Lesson Plan 1

This set of Mathematics Multiple Choice Questions & Answers (MCQs) focuses on "Determinants – Minors and Cofactors".

1. Which of the following is the formula for cofactor of an element a_{ij} ?
a) $A_{ij}=(1)^{i+j} M_{ij}$
b) $A_{ij}=(-2)^{i+j} M_{ij}$
c) $A_{ij}=(-1)^{i+j} M_{ij}$
d) $A_{ij}=(-1)^{i-j} M_{ij}$

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2. What is the minor of the element 5 in the determinant $\Delta = \begin{vmatrix} 1 & 5 & 4 \\ 2 & 3 & 6 \\ 7 & 9 & 4 \end{vmatrix}$?

a) -34
b) 34
c) -17
d) 21

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3. Find the minor and cofactor respectively for the element 3 in the determinant $\Delta = \begin{vmatrix} 1 & 5 \\ 3 & 6 \end{vmatrix}$.

a) $M_{21}=-5, A_{21}=-5$
b) $M_{21}=5, A_{21}=-5$
c) $M_{21}=-5, A_{21}=5$
d) $M_{21}=5, A_{21}=5$

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4. Find the minor of the element 1 in the determinant $\Delta=\begin{vmatrix} 1 & 5 \\ 3 & 8 \end{vmatrix}$.

a) 5
b) 1
c) 8
d) 3

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5. Find the cofactor of element -3 in the determinant $\Delta=\begin{vmatrix} 1 & 4 & 4 \\ -3 & 5 & 9 \\ 2 & 1 & 2 \end{vmatrix}$.

a) -4
b) 4
c) -5
d) -3

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6. If $\Delta=\begin{vmatrix} a_{11} & a_{12} & a_{13} \\ a_{21} & a_{22} & a_{23} \\ a_{31} & a_{32} & a_{33} \end{vmatrix}$, then the determinant in terms of cofactors A_{ij} can be expressed as $a_{11} A_{11}+a_{21} A_{21}+a_{31} A_{31}$.

a) True
b) False

View Answer

7. Find the minor of the element 2 in the determinant $\Delta=\begin{vmatrix} 1 & 9 \\ 2 & 3 \end{vmatrix}$?

a) 3
b) 9
c) 1
d) 2

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8. For which of the elements in the determinant $\Delta = \begin{vmatrix} 1 & 8 & -6 \\ 2 & -3 & 4 \\ -7 & 9 & 5 \end{vmatrix}$ the cofactor is -37.

a) 4
b) 1
c) -6
d) -3

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9. For which of the following elements in the determinant $\Delta = \begin{vmatrix} 2 & 8 \\ 4 & 7 \end{vmatrix}$, the minor of the element

is 2?
a) 2
b) 7
c) 4
d) 8

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10. For which of the following element in the determinant $\Delta = \begin{vmatrix} 5 & -5 & 8 \\ 6 & 2 & -1 \\ 5 & -6 & 8 \end{vmatrix}$, the minor and

the cofactor both are zero.
a) -5
b) 2
c) -6
d) 8

˅ View Answer