

King Fahd University of Petroleum and Minerals

Prep-Year Math Program

Math 002 - Term 132

Recitation (9.3)

Question 1: The sum of solutions of the equation

$$\begin{vmatrix} 1 & -1 & 2 \\ 0 & x & 1 \\ 3 & 2 & x-1 \end{vmatrix} = -17$$

Is equal to:

- A) -7 B) 12 **C) 7** D) -12 E) -6

Answer: The sum is equal to 7

Question 2: If $A = \begin{bmatrix} 3 & 1 & -1 & 3 \\ -2 & 0 & 2 & -5 \\ 3 & 3 & 6 & -9 \\ 1 & 1 & 8 & -6 \end{bmatrix}$, then find

1. The minor M_{22} and the cofactor C_{43}
2. $|A|$

Answer:

(1): minor of 0 = $M_{22} = 153$ $C_{43} = 6$

(2): $|A| = 18$

Question 3: If A is 3×3 such that $|A| = -2$, find $2 \left| \frac{1}{2}A \right|$.

Answer: $-\frac{1}{2}$

Question 4: The sum of the minor M_{13} and the cofactor C_{32} of the matrix

$$\begin{bmatrix} 4 & -3 & 3 \\ 2 & 1 & -4 \\ 6 & -2 & -1 \end{bmatrix}$$
 is

- A) -32 B) 34 C) 24 **D) 12** E) -10

Answer: $M_{13} + C_{32} = -10 + 22 = 12$