

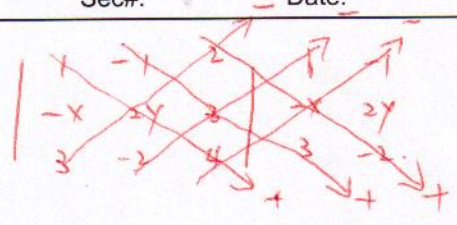
MAC1140 SEC29 Quiz 11-07-2007 10.4

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1.

[10.4.1aPT] 
$$\begin{vmatrix} 1 & -1 & 2 \\ -x & 2y & z \\ 3 & -2 & 4 \end{vmatrix} =$$



- $-4y - 5z$
- $-4y - z + 8x$
- $4y + z$
- $-4y - z$

So, 
$$\begin{vmatrix} 1 & -1 & 2 \\ -x & 2y & z \\ 3 & -2 & 4 \end{vmatrix} = +1 \cdot 2y \cdot 4 + (-1) \cdot 3 \cdot z + 2 \cdot (-x) \cdot (-2) - 3 \cdot 2y \cdot 2 - (-2) \cdot z \cdot 1 - 4 \cdot (-x) \cdot (-1)$$

$$= 8y - 3z + 4x - 12y + 2z - 4x$$

$$= -4y - z$$

2.

[10.4.2aPT] Select the solution given by Cramer's rule for the following system, where

$$D = \begin{vmatrix} 1 & 4 & -2 \\ 3 & -2 & 3 \\ 2 & 1 & -3 \end{vmatrix} \quad A = \begin{vmatrix} 0 & 4 & -2 \\ 4 & -2 & 3 \\ -1 & 1 & -3 \end{vmatrix} \quad B = \begin{vmatrix} 1 & 0 & -2 \\ 3 & 4 & 3 \\ 2 & -1 & -3 \end{vmatrix} \quad C =$$

$$\begin{vmatrix} 1 & 4 & 0 \\ 3 & -2 & 4 \\ 2 & 1 & -1 \end{vmatrix}$$

$$\begin{cases} x + 4y - 2z = 0 \\ 3x - 2y + 3z = 4 \\ 2x + y - 3z = -1 \end{cases}$$

- $z = D/B$
- $z = B/D$
- $z = D/C$
- None of these
- $z = C/D$

According to Cramer's rule.

$$x = \frac{A}{D}$$

$$y = \frac{B}{D}$$

$$z = \frac{C}{D}$$