

Question #9:

$$\Delta = \begin{vmatrix} 2 & -2 & 1 \\ 5 & 2 & -3 \\ 4 & 1 & 2 \end{vmatrix} = 55$$

$$\Delta_1 = \begin{vmatrix} 7 & -2 & 1 \\ 0 & 2 & -3 \\ -1 & 1 & 2 \end{vmatrix} = 45$$

$$\Delta_2 = \begin{vmatrix} 2 & 7 & 1 \\ 5 & 0 & -3 \\ 4 & -1 & 2 \end{vmatrix} = -165$$

$$\Delta_3 = \begin{vmatrix} 2 & -2 & 7 \\ 5 & 2 & 0 \\ 4 & 1 & -1 \end{vmatrix} = -35$$

$$x_1 = \frac{\Delta_1}{\Delta} = \frac{45}{55} = \frac{9}{11}$$

$$x_2 = \frac{\Delta_2}{\Delta} = \frac{-165}{55} = -3$$

$$x_3 = \frac{\Delta_3}{\Delta} = \frac{-35}{55} = -\frac{7}{11}$$
