Liner Equation Problem:

Cramer's Rule:

Problem: 1. $2x + 3y = 60$
$-6x + 7y = 40$

Solution:

Here, $\begin{bmatrix} 2 & 3 \\ -6 & 7 \end{bmatrix} \begin{bmatrix} x \\ y \end{bmatrix} = \begin{bmatrix} 60 \\ 40 \end{bmatrix}$

$\therefore A = \begin{bmatrix} 2 & 3 \\ -6 & 7 \end{bmatrix}$

$\therefore$ Diterminant of $[A] = |A| = 14 + 18 = 32$

$$\therefore x = \frac{\begin{vmatrix} 60 & 3 \\ 40 & 7 \end{vmatrix}}{|A|} = \frac{420 - 120}{32} = 9.375$$

$$\therefore y = \frac{\begin{vmatrix} 2 & 60 \\ -6 & 40 \end{vmatrix}}{|A|} = \frac{80 + 360}{32} = 13.75$$

$\therefore x = 9.375$
$y = 13.75$ } Ans