③ The given points are
A(2,3), B(6,7) and C(10,8)
Now the scaling factor is $S_x = 3$ & $S_y = 4$

Now, in order to find the new coordinate
we have to multiply matrices with point
A fixed.

$= T[2,3] \cdot S[3,4] \cdot T[-2,-3]$

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

$$= \begin{bmatrix} 3 & 0 & 2 \\ 0 & 4 & 3 \\ 0 & 0 & 1 \end{bmatrix} \begin{bmatrix} 1 & 0 & -2 \\ 0 & 1 & -3 \\ 0 & 0 & 1 \end{bmatrix} = \begin{bmatrix} 3 & 0 & -4 \\ 4 & 4 & -9 \\ 0 & 0 & 1 \end{bmatrix}$$

Now, at last we have to find new transformed
Coordinates of △ABC.

$\triangle A'B'C' = T \cdot \triangle ABC$

$$\begin{bmatrix} 3 & 0 & -4 \\ 4 & 4 & -9 \\ 0 & 0 & 1 \end{bmatrix} \begin{bmatrix} 2 & 6 & 10 \\ 3 & 7 & 8 \\ 1 & 1 & 1 \end{bmatrix}$$

$$\triangle A'B'C' = \begin{bmatrix} 2 & 14 & 26 \\ 11 & 43 & 63 \\ 1 & 1 & 1 \end{bmatrix}$$

These are the new transformed coordinates