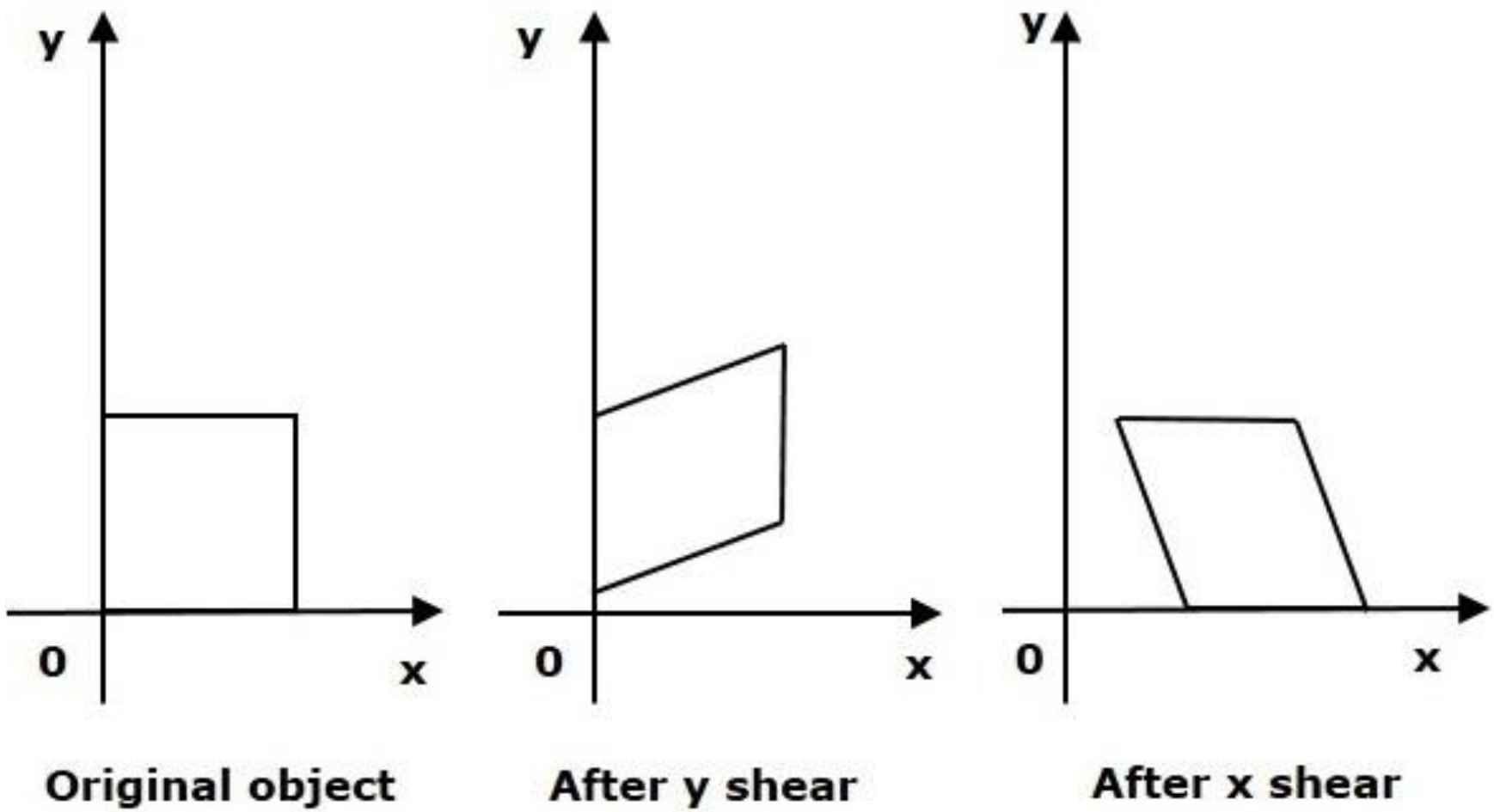
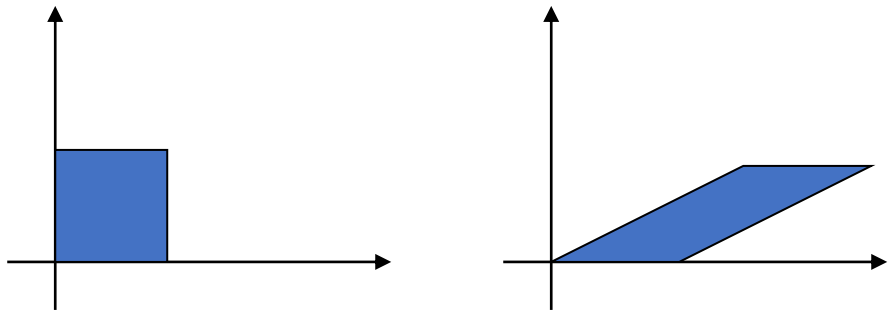
Shear



- **The x-direction shear relative to x axis**

$$\begin{bmatrix} 1 & sh_x & 0 \\ 0 & 1 & 0 \\ 0 & 0 & 1 \end{bmatrix}$$

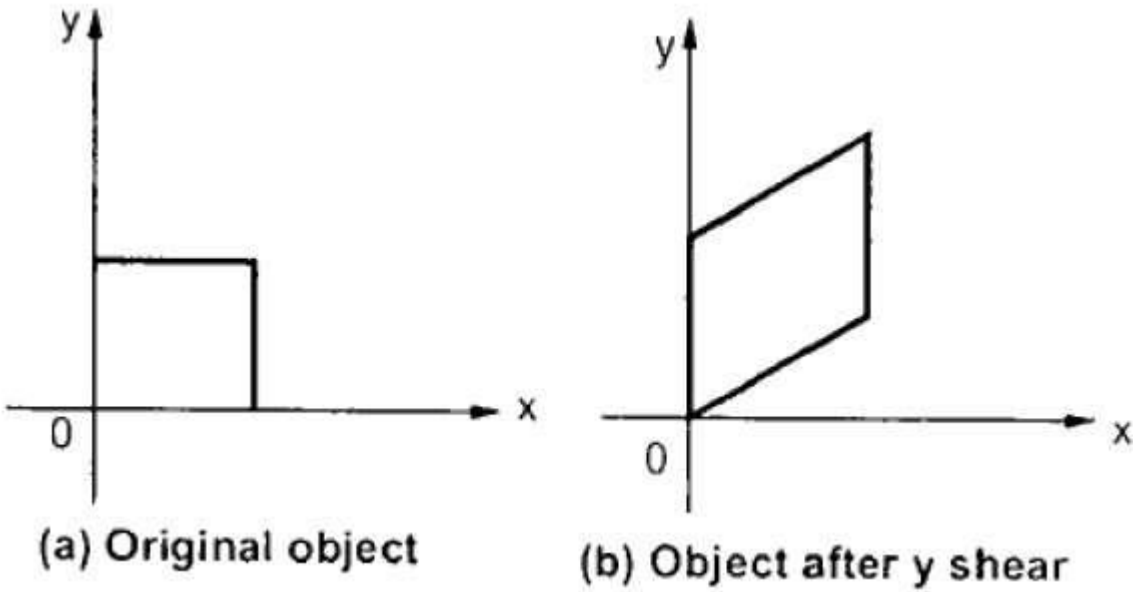
$$x' = x + sh_x \cdot y$$
$$y' = y$$



- The Y direction shear

$$\begin{bmatrix} 1 & 0 & 0 \\ shy & 1 & 0 \\ 0 & 0 & 1 \end{bmatrix}$$

$$Y' = Y + Sh_y \,.\, X$$
$$X' = X$$



(a) Original object

(b) Object after y shear