

Fill in the Blanks

Inverse of a Linear Transformation

Transformation Matrix M	Det M	Inverse Matrix M^{-1}	Image Coords	Matrix Calculation	Object Coords
$\begin{pmatrix} 2 & 1 \\ -1 & 3 \end{pmatrix}$	7	$\frac{1}{7} \begin{pmatrix} 3 & -1 \\ 1 & 2 \end{pmatrix}$	(8, 3)	$\frac{1}{7} \begin{pmatrix} 3 & -1 \\ 1 & 2 \end{pmatrix} \begin{pmatrix} 8 \\ 3 \end{pmatrix} = \begin{pmatrix} \\ \end{pmatrix}$	
$\begin{pmatrix} -1 & 0 \\ 4 & 2 \end{pmatrix}$	-2	$-\frac{1}{2} \begin{pmatrix} 2 & 0 \\ -4 & -1 \end{pmatrix}$	(-2, -2)		
$\begin{pmatrix} 1 & -3 \\ 0 & -1 \end{pmatrix}$			(-5, -3)		
$\begin{pmatrix} -3 & 0 \\ 0 & 2 \end{pmatrix}$			(3, 14)		
$\begin{pmatrix} 3 & -2 \\ -1 & 4 \end{pmatrix}$			(15, -5)		
$\begin{pmatrix} -5 & 0 \\ 1 & -1 \end{pmatrix}$			(-10, 5)		
$\begin{pmatrix} 1 & 0 & -1 \\ 2 & 1 & 0 \\ -1 & 3 & 1 \end{pmatrix}$			(2, 6, -2)		
$\begin{pmatrix} 0 & 2 & -1 \\ -2 & 3 & 1 \\ 1 & -1 & 0 \end{pmatrix}$			(6, 16, -5)		