

$$\begin{pmatrix} Sx \\ Sy \\ 1 \end{pmatrix} = \begin{pmatrix} e/det & -b/det & (bf-ce)/det \\ -d/det & a/det & (cd-af)/det \\ 0 & 0 & 1 \end{pmatrix} \begin{pmatrix} Dx \\ Dy \\ 1 \end{pmatrix}$$