
Topic	Rule
Size	$m \times n = m \text{ rows, } n \text{ columns}$
Product	$(m \times n)(n \times p) = m \times p$
2×2 determinant	$ad - bc$
2×2 inverse	$(1/\det) \cdot [[d, -b], [-c, a]]$
Transpose of product	$(AB)^T = B^T A^T$
Inverse of product	$(AB)^{-1} = B^{-1} A^{-1}$
Row operations	Swap · scale by $k \neq 0$ · add multiple of another row
Invertible if	$\det \neq 0 \Leftrightarrow \text{rank} = n$