Conventional solution and proof

If $A \in \mathbb{R}^{m \times n}$, then for every valid i, j, $[(A^{\mathsf{T}})^{\mathsf{T}}]_{ij} = (A^{\mathsf{T}})_{ji} = A_{ij}$. Both matrices have shape $m \times n$ and identical entries, hence are equal. The argument applies over any coefficient ring.

Structural or analytic derivation

A transpose is the permutation $(i, j) \mapsto (j, i)$ of the two coordinate positions. Applying this permutation twice is the identity. The proof does not require moving any stored elements.

Comparative cost and preferred method

The mathematical identity has a uniform index proof. A transpose implemented as a stride view costs $O(1)$ metadata, so two views cost $O(1)$. Materializing two copies costs $\Theta(mn)$ memory traffic. The advantage is representation-dependent; a conventional array view already attains it.