

Definition (Transpose of a relation)

Let $R : \mathbf{A} \rightarrow \mathbf{B}$ be a relation. We define its *transpose* (or *opposite*, or *reverse*)

$R^{\mathsf{T}} : \mathbf{B} \rightarrow \mathbf{A}$ as follows:

$$\frac{x R y}{y R^{\mathsf{T}} x}.$$