

## Phase 11 c Function Type Arrows

*Total(function)*  
 $X \rightarrow Y$

*Partial(function)*  
 $\mathbb{N} \rightarrow \mathbb{N}$

*Total(injection)*  
 $A \rightarrow B$

*Partial(injection)*  
 $X \rightarrow Y$

*Total(surjection)*  
 $A \rightarrow B$

*Partial(surjection)*  
 $X \rightarrow Y$

*Bijection*  
 $A \leftrightarrow B$

*Higher(order)(function)(type)*  
 $\mathbb{N} \rightarrow \mathbb{N} \rightarrow \mathbb{N}$

*Right(associative)(function)(types)*  
 $A \rightarrow (B \times C)$   
 $X \rightarrow (Y \times Z)$

|  $\text{square} : \mathbb{N} \rightarrow \mathbb{N}$   
 $\text{npdiv} : \mathbb{N} \rightarrow \mathbb{N}$   
 $\text{bmap} : A \rightarrow B$