	$\frac{(A:\star)(A)=\star}{A:\star\vdash A:\star}$	$\frac{(A:\star,\_:A)(A)=\star}{A:\star, :A\vdash A:\star}$	$\frac{(A:\star)(A)=\star}{A:\star\vdash A:\star}$	$\frac{(A:\star,x:A)(A)=\star}{A:\star,x:A\vdash A:\star}$	$\frac{(A:\star,x:A)(x)=A}{A:\star,x:A\vdash x:A}$	
<u></u> ⊢ ★ : ★	$A: \star \vdash A \to A: \star$		21. 1 21. 1	$A: \star \vdash \lambda(x:A).x:A \to A$		

 $\vdash \lambda(A:\star).\ \lambda(x:A).\ x:(A:\star)\to A\to A$ 

 $\begin{array}{c} \stackrel{=}{\star} V & \frac{(A:\star,\_:A)(A)=\star}{A:\star,\_:A\vdash A:\star} V \\ \hline A:\star\vdash A\to A:\star \end{array} \Pi \qquad \frac{(A:\star)(A)=\star}{A:\star\vdash A:\star} V$  $\frac{(A:\star,x:A)(A)=\star}{A:\star,x:A\vdash A:\star} V \qquad \frac{(A:\star,x:A\vdash A:\star}{A}$   $A:\star\vdash \lambda(x:A).x:A\to A$  $\frac{(A:\star)(A)=\star}{A:\star\vdash A:\star} V$  $\frac{(A:\star,x:A)(x)=A}{A:\star,x:A\vdash x:A} \vee$  $\vdash \lambda(A:\star).\ \lambda(x:A).\ x:(A:\star)\to A\to A$ 

 $\frac{(A:\star)(A)=\star}{A:\star\vdash A:\star}$  Type-Var-Ref  $\frac{(A:\star,x:A)(A)=\star}{A:\star,x:A\vdash A:\star} \text{Type-Var-Ref}$  $A:\star\vdash\lambda(x:A).x:A\to A$  $\begin{array}{ll} \operatorname{Ref} & \frac{(A:\star,\_:A)(A)=\star}{A:\star,\_:A\vdash A:\star} \ \operatorname{Type-Var-Ref} \\ A:\star\vdash A\to A:\star \end{array}$  $\frac{(A:\star,x:A)(x)=A}{A:\star,x:A\vdash x:A}\;\text{Type-Var-Ref}$  $\frac{(A:\star)(A)=\star}{A:\star\vdash A:\star} \text{ Type-Var-Ref}$  $\frac{\phantom{a}}{\vdash \star : \star}$  Type-\* ——— Type- $\lambda$ — Type- $\lambda$  $\vdash \lambda(A:\star).\ \lambda(x:A).\ x:(A:\star)\to A\to A$