

t78_partfun1 (TM- cGKghaV5WERtQjWiRf28bXcNng7UyMECt)

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Let $v4_funct_1 : \iota \Rightarrow o$ be given. Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $r1_partfun1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3_tarski : \iota \Rightarrow \iota$ be given. Let $k4_tarski : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. ((v1_relat_1 X3) \wedge \\ & (v1_funct_1 X3)) \Rightarrow (\forall X4. ((v1_relat_1 X4) \wedge (v1_funct_1 X4)) \Rightarrow \\ & (((r1_partfun1 X3 X4) \wedge ((k4_tarski X0 X1 \in X3) \wedge (k4_tarski X0 X2 \in \\ & X4))) \Rightarrow (X1 = X2))) \end{aligned} \tag{1}$$

Assume the following.

$$\forall X0. \forall X1. (X1 = k3_tarski X0) \Leftrightarrow (\forall X2. (X2 \in X1) \Leftrightarrow (\exists X3. (X2 \in X3) \wedge (X3 \in X0))) \tag{2}$$

Assume the following.

$$\forall X0. (v1_relat_1 X0) \Leftrightarrow (\forall X1. \neg (X1 \in X0) \wedge (\forall X2. \forall X3. X1 \neq k4_tarski X2 X3)) \tag{3}$$

Assume the following.

$$\forall X0. (v1_funct_1 X0) \Leftrightarrow (\forall X1. \forall X2. \forall X3. ((k4_tarski X1 X2 \in X0) \wedge (k4_tarski X1 X3 \in X0)) \Rightarrow (X2 = X3)) \tag{4}$$

Assume the following.

$$\forall X0. (v4_funct_1 X0) \Leftrightarrow (\forall X1. (X1 \in X0) \Rightarrow ((v1_relat_1 X1) \wedge (v1_funct_1 X1))) \tag{5}$$

Theorem 1

$$\begin{aligned} & \forall X0. ((v4_funct_1 X0) \wedge (\forall X1. ((v1_relat_1 X1) \wedge (v1_funct_1 \\ & X1)) \Rightarrow (\forall X2. ((v1_relat_1 X2) \wedge (v1_funct_1 X2)) \Rightarrow (((X1 \in X0) \wedge \\ & (X2 \in X0)) \Rightarrow (r1_partfun1 X1 X2)))))) \Rightarrow ((v1_relat_1 (k3_tarski X0)) \wedge \\ & (v1_funct_1 (k3_tarski X0))) \end{aligned}$$