

t28_funct_4 (TMTistCFxvgWNMK- MzHLsm32iRWRyTiudqzi)

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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 $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_funct_4 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k9_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0. \forall X1. r1_tarski X0 (k2_xboole_0 X0 X1) \quad (1)$$

Assume the following.

$$\forall X0. ((v1_relat_1 X0) \wedge (v1_funct_1 X0)) \Rightarrow (\forall X1. ((v1_relat_1 X1) \wedge (v1_funct_1 X1)) \Rightarrow ((r1_tarski X0 X1) \Rightarrow (r1_partfun1 X0 X1))) \quad (2)$$

Assume the following.

$$\forall X0. ((v1_relat_1 X0) \wedge (v1_funct_1 X0)) \Rightarrow (\forall X1. ((v1_relat_1 X1) \wedge (v1_funct_1 X1)) \Rightarrow ((r1_tarski X0 X1) \Leftrightarrow ((r1_tarski (k9_xtuple_0 X0) (k9_xtuple_0 X1)) \wedge (\forall X2. (X2 \in k9_xtuple_0 X0) \Rightarrow (k1_funct_1 X0 X2 = k1_funct_1 X1 X2)))))) \quad (3)$$

Assume the following.

$$\forall X0. ((v1_relat_1 X0) \wedge (v1_funct_1 X0)) \Rightarrow (\forall X1. ((v1_relat_1 X1) \wedge (v1_funct_1 X1)) \Rightarrow (\forall X2. ((v1_relat_1 X2) \wedge (v1_funct_1 X2)) \Rightarrow ((r1_partfun1 X0 (k1_funct_4 X1 X2)) \Rightarrow (r1_partfun1 X0 X2)))) \quad (4)$$

Assume the following.

$$\forall X0. \forall X1. ((v1_relat_1 X1) \wedge (v1_funct_1 X1)) \Rightarrow (\forall X2. ((v1_relat_1 X2) \wedge (v1_funct_1 X2)) \Rightarrow (((r1_partfun1 X1 X2) \wedge (X0 \in k9_xtuple_0 X1)) \Rightarrow (k1_funct_1 (k1_funct_4 X1 X2) X0 = k1_funct_1 X1 X0))) \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.(((v1_relat_1 X0)\wedge(v1_funct_1 X0))\wedge((v1_relat_1 X1)\wedge(v1_funct_1 X1)))\Rightarrow((v1_relat_1 (k1_funct_4 X0 X1))\wedge(v1_funct_1 (k1_funct_4 X0 X1))) \quad (6)$$

Assume the following.

$$\begin{aligned} & \forall X0.((v1_relat_1 X0)\wedge(v1_funct_1 X0))\Rightarrow(\forall X1.((v1_relat_1 X1)\wedge(v1_funct_1 X1))\Rightarrow(\forall X2.((v1_relat_1 X2)\wedge(v1_funct_1 X2))\Rightarrow((X2 = k1_funct_4 X0 X1)\Leftrightarrow((k9_xtuple_0 X2 = k2_xboole_0 (k9_xtuple_0 X0) (k9_xtuple_0 X1))\wedge(\forall X3.(X3 \in k2_xboole_0 (k9_xtuple_0 X0) (k9_xtuple_0 X1))\Rightarrow(((X3 \in k9_xtuple_0 X1)\Rightarrow(k1_funct_1 X2 X3 = k1_funct_1 X1 X3))\wedge((\neg X3 \in k9_xtuple_0 X1)\Rightarrow(k1_funct_1 X2 X3 = k1_funct_1 X0 X3)))))))))) \end{aligned} \quad (7)$$

Theorem 1

$$\forall X0.((v1_relat_1 X0)\wedge(v1_funct_1 X0))\Rightarrow(\forall X1.((v1_relat_1 X1)\wedge(v1_funct_1 X1))\Rightarrow((r1_partfun1 X0 X1)\Leftrightarrow(r1_tarSKI X0 (k1_funct_4 X0 X1))))$$