

t9_algspec1 (TMMdAYykgvsHU- ufK8bQ5fvZ7136EYXMWgGi)

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Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $k9_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_algspec1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_funct_4 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_partfun1 : \iota \Rightarrow \iota$ be given. Let $k4_relat_1 : \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} \forall X0. (\neg v1_xboole_0 X0) \Rightarrow (\forall X1. ((v1_relat_1 X1) \wedge (\\ v1_funct_1 X1)) \Rightarrow (\forall X2. (m1_subset_1 X2 X0) \Rightarrow (k1_funct_1 \\ (k1_algspec1 X0 X1) X2 = k1_funct_1 (k1_funct_4 (k6_partfun1 X0) \\ X1) X2))) \end{aligned} \tag{1}$$

Assume the following.

$$\forall X0. \forall X1. \neg (X0 \in X1) \wedge (v1_xboole_0 X1) \tag{2}$$

Assume the following.

$$\forall X0. \forall X1. (X0 \in X1) \Rightarrow (m1_subset_1 X0 X1) \tag{3}$$

Assume the following.

$$\forall X0. \forall X1. (X0 \in X1) \Rightarrow (k1_funct_1 (k4_relat_1 X1) X0 = X0) \tag{4}$$

Assume the following.

$$\begin{aligned} \forall X0. \forall X1. ((v1_relat_1 X1) \wedge (v1_funct_1 X1)) \Rightarrow (\forall X2. \\ ((v1_relat_1 X2) \wedge (v1_funct_1 X2)) \Rightarrow ((X0 \in k9_xtuple_0 X1) \Rightarrow (k1_funct_1 \\ (k1_funct_4 X2 X1) X0 = k1_funct_1 X1 X0))) \end{aligned} \tag{5}$$

Assume the following.

$$\begin{aligned} \forall X0. \forall X1. ((v1_relat_1 X1) \wedge (v1_funct_1 X1)) \Rightarrow (\forall X2. \\ ((v1_relat_1 X2) \wedge (v1_funct_1 X2)) \Rightarrow ((\neg X0 \in k9_xtuple_0 X1) \Rightarrow (k1_funct_1 \\ (k1_funct_4 X2 X1) X0 = k1_funct_1 X2 X0))) \end{aligned} \tag{6}$$

Assume the following.

$$\forall X0.k6_partfun1 X0 = k4_relat_1 X0 \quad (7)$$

Assume the following.

$$\forall X0.(v1_relat_1 (k4_relat_1 X0)) \wedge (v1_funct_1 (k4_relat_1 X0)) \quad (8)$$

Assume the following.

$$\forall X0.v1_relat_1 (k4_relat_1 X0) \quad (9)$$

Theorem 1

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.((v1_relat_1 X2) \wedge (v1_funct_1 \\ & X2)) \Rightarrow ((X1 \in X0) \Rightarrow (((X1 \in k9_xtuple_0 X2) \Rightarrow (k1_funct_1 (k1_algspec1 \\ & X0 X2) X1 = k1_funct_1 X2 X1)) \wedge ((\neg X1 \in k9_xtuple_0 X2) \Rightarrow (k1_funct_1 \\ & (k1_algspec1 X0 X2) X1 = X1)))) \end{aligned}$$