

t142_pboole
(TMFZUfmntVoQ13rYfjPsqweGojAaZHYUghi)

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Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v4_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v1_partfun1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5_relat_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_funct_4 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k9_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $k1_relset_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} \forall X0.((v1_relat_1 X0) \wedge (v1_funct_1 X0)) \Rightarrow (\forall X1.((\\ v1_relat_1 X1) \wedge (v1_funct_1 X1)) \Rightarrow (\forall X2.(r1_tarski (k3_xboole_0 \\ X2 (k9_xtuple_0 X0)) (k3_xboole_0 X2 (k9_xtuple_0 X1))) \Rightarrow (k5_relat_1 \\ (k1_funct_4 X0 (k5_relat_1 X1 X2)) X2 = k5_relat_1 X1 X2))) \end{aligned} \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. r1_tarski X0 X0 \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. ((v1_relat_1 X1) \wedge (v4_relat_1 X1 X0)) \Rightarrow (\\ k1_relset_1 X0 X1 = k9_xtuple_0 X1) \quad (3)$$

Assume the following.

$$\forall X0. \forall X1. ((v1_relat_1 X1) \wedge (v4_relat_1 X1 X0)) \Rightarrow (\\ (v1_partfun1 X1 X0) \Leftrightarrow (k1_relset_1 X0 X1 = X0)) \quad (4)$$

Theorem 1

$$\begin{aligned} \forall X0. \forall X1. \forall X2. ((v1_relat_1 X2) \wedge ((v4_relat_1 \\ X2 X0) \wedge ((v1_funct_1 X2) \wedge (v1_partfun1 X2 X0)))) \Rightarrow (\forall X3. (\\ (v1_relat_1 X3) \wedge ((v4_relat_1 X3 X0) \wedge ((v1_funct_1 X3) \wedge (v1_partfun1 \\ X3 X0)))) \Rightarrow (k5_relat_1 (k1_funct_4 X3 (k5_relat_1 X2 X1)) X1 = k5_relat_1 \\ X2 X1)) \end{aligned}$$