

t130_pboole
(TMWb3djArQhFrj55f697ERQw63n7MDLSzQJ)

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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 $v3_relat_1 : \iota \Rightarrow o$ be given. Let $r2_pboole : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_pboole : \iota \Rightarrow \iota$ be given. Let $r6_pboole : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0. \forall X1. ((v1_relat_1 X1) \wedge ((v4_relat_1 X1 X0) \wedge (v1_funct_1 X1) \wedge (v1_partfun1 X1 X0))) \Rightarrow ((r2_pboole X0 X1 (k1_pboole X0)) \Rightarrow (r6_pboole X0 X1 (k1_pboole X0))) \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. ((v1_relat_1 X1) \wedge ((v4_relat_1 X1 X0) \wedge (v1_funct_1 X1) \wedge (v1_partfun1 X1 X0))) \Rightarrow ((v3_relat_1 X1) \Leftrightarrow (r6_pboole X0 X1 (k1_pboole X0))) \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. (((v1_relat_1 X1) \wedge ((v4_relat_1 X1 X0) \wedge ((v1_funct_1 X1) \wedge (v1_partfun1 X1 X0)))) \wedge ((v1_relat_1 X2) \wedge ((v4_relat_1 X2 X0) \wedge ((v1_funct_1 X2) \wedge (v1_partfun1 X2 X0)))))) \Rightarrow ((r6_pboole X0 X1 X2) \Leftrightarrow (X1 = X2)) \quad (3)$$

Assume the following.

$$\forall X0. (v1_relat_1 (k1_pboole X0)) \wedge ((v4_relat_1 (k1_pboole X0) X0) \wedge ((v1_funct_1 (k1_pboole X0)) \wedge (v1_partfun1 (k1_pboole X0) X0))) \quad (4)$$

Theorem 1

$$\forall X0. \forall X1. ((v1_relat_1 X1) \wedge ((v4_relat_1 X1 X0) \wedge (v1_funct_1 X1) \wedge (v1_partfun1 X1 X0))) \Rightarrow (\forall X2. ((v1_relat_1 X2) \wedge ((v4_relat_1 X2 X0) \wedge ((v1_funct_1 X2) \wedge (v1_partfun1 X2 X0)))) \Rightarrow ((v3_relat_1 X1) \wedge (r2_pboole X0 X2 X1)) \Rightarrow (v3_relat_1 X2)))$$