

t75_rfunct_1

(TMP4uTdTHmDCsS2kP2mBMgyvonC1ttLk9VB)

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Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v3_valued_0 : \iota \Rightarrow o$ be given. Let $v1_seq_2 : \iota \Rightarrow o$ be given. Let $k5_relat_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v2_seq_2 : \iota \Rightarrow o$ be given. Let $v1_comseq_2 : \iota \Rightarrow o$ be given. Let $k3_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. ((v1_relat_1 X2) \wedge ((v1_funct_1 \\ & X2) \wedge (v3_valued_0 X2))) \Rightarrow (((r1_tarski X0 X1) \wedge (v1_seq_2 (k5_relat_1 \\ & X2 X1))) \Rightarrow (v1_seq_2 (k5_relat_1 X2 X0))) \wedge (((r1_tarski X0 X1) \wedge \\ & (v2_seq_2 (k5_relat_1 X2 X1))) \Rightarrow (v2_seq_2 (k5_relat_1 X2 X0))) \wedge \\ & (((r1_tarski X0 X1) \wedge (v1_comseq_2 (k5_relat_1 X2 X1))) \Rightarrow (v1_comseq_2 \\ & (k5_relat_1 X2 X0)))) \end{aligned} \tag{1}$$

Assume the following.

$$\forall X0. \forall X1. r1_tarski (k3_xboole_0 X0 X1) X0 \tag{2}$$

Assume the following.

$$\forall X0. \forall X1. ((v1_relat_1 X0) \wedge (v1_funct_1 X0)) \Rightarrow ((v1_relat_1 (k5_relat_1 X0 X1)) \wedge (v1_funct_1 (k5_relat_1 X0 X1))) \tag{3}$$

Assume the following.

$$\forall X0. \forall X1. ((v1_relat_1 X0) \wedge (v3_valued_0 X0)) \Rightarrow ((v1_relat_1 (k5_relat_1 X0 X1)) \wedge (v3_valued_0 (k5_relat_1 X0 X1))) \tag{4}$$

Assume the following.

$$\forall X0. \forall X1. k3_xboole_0 X0 X1 = k3_xboole_0 X1 X0 \tag{5}$$

Assume the following.

$$\begin{aligned} & \forall X0. ((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge ((v3_valued_0 \\ & X0) \wedge ((v1_seq_2 X0) \wedge (v2_seq_2 X0)))))) \Rightarrow ((v1_relat_1 X0) \wedge ((v1_funct_1 \\ & X0) \wedge ((v3_valued_0 X0) \wedge (v1_comseq_2 X0)))) \end{aligned} \tag{6}$$

Theorem 1

$$\forall X0.\forall X1.\forall X2.((v1_relat_1 X2)\wedge((v1_funct_1 X2)\wedge(v3_valued_0 X2)))\Rightarrow(((v1_seq_2 (k5_relat_1 X2 X0))\wedge(v2_seq_2 (k5_relat_1 X2 X1)))\Rightarrow(v1_comseq_2 (k5_relat_1 X2 (k3_xboole_0 X0 X1))))$$