

t21_mboolean
(TMSQ1rUYyb2SDFhbosS7b8W5qC4qPzqPQh7)

October 27, 2020

Let $r6_pboole : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_mboolean : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_pboole : \iota \Rightarrow \iota$ be given. 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. Assume the following.

$$\begin{aligned} \forall X0. \forall X1. ((v1_relat_1 X1) \wedge ((v4_relat_1 X1 X0) \wedge \\ (v1_funct_1 X1) \wedge (v1_partfun1 X1 X0))) \Rightarrow ((v3_relat_1 X1) \Leftrightarrow (r6_pboole \\ X0 X1 (k1_pboole X0))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} \forall X0. (v1_relat_1 (k2_mboolean X0 (k1_pboole X0))) \wedge ((v3_relat_1 \\ (k2_mboolean X0 (k1_pboole X0))) \wedge ((v4_relat_1 (k2_mboolean X0 \\ (k1_pboole X0)) X0) \wedge ((v1_funct_1 (k2_mboolean X0 (k1_pboole X0))) \wedge \\ (v1_partfun1 (k2_mboolean X0 (k1_pboole X0)) X0)))) \end{aligned} \tag{2}$$

Theorem 1 $\forall X0. r6_pboole X0 (k2_mboolean X0 (k1_pboole X0)) (k1_pboole X0).$