t32_xxreal_0 (TMUTsd5tVnk1PkrvB3VsPSquALt69SqAaYm)

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Let $v1\_xxreal\_0 : \iota \Rightarrow o$ be given. Let $r1\_xxreal\_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k4\_xxreal\_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0.(v1\_xxreal\_0\ X0) \Rightarrow (\forall X1.(v1\_xxreal\_0\ X1) \Rightarrow (((r1\_xxreal\_0\ X1\ X0) \Rightarrow (k4\_xxreal\_0\ X0\ X1 = X0)) \wedge ((\neg r1\_xxreal\_0\ X1\ X0) \Rightarrow (k4\_xxreal\_0\ X0\ X1 = X1)))) \tag{1}$$

Assume the following.

$$\forall X0.\forall X1.((v1\_xxreal\_0\ X0) \wedge (v1\_xxreal\_0\ X1)) \Rightarrow ((r1\_xxreal\_0\ X0\ X1) \vee (r1\_xxreal\_0\ X1\ X0)) \tag{2}$$

Assume the following.

$$\forall X0.\forall X1.((v1\_xxreal\_0\ X0) \wedge (v1\_xxreal\_0\ X1)) \Rightarrow (k4\_xxreal\_0\ X0\ X1 = k4\_xxreal\_0\ X1\ X0) \tag{3}$$

Theorem 1

$$\forall X0.(v1\_xxreal\_0\ X0) \Rightarrow (\forall X1.(v1\_xxreal\_0\ X1) \Rightarrow (\forall X2. (v1\_xxreal\_0\ X2) \Rightarrow (((r1\_xxreal\_0\ X0\ X1) \wedge ((r1\_xxreal\_0\ X2\ X1) \wedge (\forall X3.(v1\_xxreal\_0\ X3) \Rightarrow (((r1\_xxreal\_0\ X0\ X3) \wedge (r1\_xxreal\_0\ X2\ X3)) \Rightarrow (r1\_xxreal\_0\ X1\ X3))))) \Rightarrow (X1 = k4\_xxreal\_0\ X0\ X2))))$$