t2_integr19 (TMPu9FBwgLarnVbEiSxomxxfF6kheL312s3)

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Let $v1\_xreal\_0 : \iota \Rightarrow o$ be given. Let $r1\_xxreal\_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3\_integra5 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0.\forall X1.\forall X2.((r1\_tarski\ X0\ X1) \wedge (r1\_tarski\ X1\ X2)) \Rightarrow (r1\_tarski\ X0\ X2) \tag{1}$$

Assume the following.

$$\forall X0.(v1\_xreal\_0\ X0) \Rightarrow (\forall X1.(v1\_xreal\_0\ X1) \Rightarrow (\forall X2.(v1\_xreal\_0\ X2) \Rightarrow (((r1\_xxreal\_0\ X0\ X1) \wedge (r1\_xxreal\_0\ X1\ X2)) \Rightarrow (r1\_xxreal\_0\ X0\ X2)))) \tag{2}$$

Assume the following.

$$\forall X0.(v1\_xreal\_0\ X0) \Rightarrow (\forall X1.(v1\_xreal\_0\ X1) \Rightarrow (\forall X2.(v1\_xreal\_0\ X2) \Rightarrow (((r1\_xxreal\_0\ X0\ X2) \wedge (r1\_xxreal\_0\ X2\ X1)) \Rightarrow ((X2 \in k3\_integra5\ X0\ X1) \wedge ((r1\_tarski\ (k3\_integra5\ X0\ X2)\ (k3\_integra5\ X0\ X1)) \wedge (r1\_tarski\ (k3\_integra5\ X2\ X1)\ (k3\_integra5\ X0\ X1)))))))) \tag{3}$$

Theorem 1

$$\forall X0.\forall X1.(v1\_xreal\_0\ X1) \Rightarrow (\forall X2.(v1\_xreal\_0\ X2) \Rightarrow (\forall X3.(v1\_xreal\_0\ X3) \Rightarrow (\forall X4.(v1\_xreal\_0\ X4) \Rightarrow (((r1\_xxreal\_0\ X1\ X2) \wedge ((r1\_xxreal\_0\ X2\ X3) \wedge ((r1\_xxreal\_0\ X3\ X4) \wedge (r1\_tarski\ (k3\_integra5\ X1\ X4)\ X0)))) \Rightarrow (r1\_tarski\ (k3\_integra5\ X2\ X3)\ X0)))))$$