

t104_xreal_1
(TMGCKeN722y6CfWzoCRxai1J2wXx92SfD7r)

October 27, 2020

Let $v1_xreal_0 : \iota \Rightarrow o$ be given. Let $r1_xxreal_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3_xcmplx_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_numbers : \iota$ be given. Let $k7_xcmplx_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xcmplx_0 : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} & \forall X0.(v1_xreal_0 X0) \Rightarrow (\forall X1.(v1_xreal_0 X1) \Rightarrow (\forall X2. \\ & (v1_xreal_0 X2) \Rightarrow ((r1_xxreal_0 (k3_xcmplx_0 X1 X0) X2) \Rightarrow ((r1_xxreal_0 \\ & k6_numbers X0) \vee (r1_xxreal_0 (k7_xcmplx_0 X2 X0) X1)))))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0.(v1_xreal_0 X0) \Rightarrow (\forall X1.(v1_xreal_0 X1) \Rightarrow (\forall X2. \\ & (v1_xreal_0 X2) \Rightarrow ((r1_xxreal_0 (k3_xcmplx_0 X1 X0) X2) \Rightarrow ((r1_xxreal_0 \\ & X0 k6_numbers) \vee (r1_xxreal_0 X1 (k7_xcmplx_0 X2 X0)))))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.((v1_xcmplx_0 X0) \wedge ((v1_xcmplx_0 \\ & X1) \wedge (v1_xcmplx_0 X2))) \Rightarrow (k3_xcmplx_0 X0 (k7_xcmplx_0 X1 X2) = k7_xcmplx_0 \\ & (k3_xcmplx_0 X0 X1) X2) \end{aligned} \quad (3)$$

Assume the following.

$$\forall X0.\forall X1.((v1_xreal_0 X0) \wedge (v1_xreal_0 X1)) \Rightarrow (v1_xreal_0 (k7_xcmplx_0 X0 X1)) \quad (4)$$

Assume the following.

$$\forall X0.\forall X1.((v1_xreal_0 X0) \wedge (v1_xreal_0 X1)) \Rightarrow (v1_xreal_0 (k3_xcmplx_0 X0 X1)) \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.((v1_xcmplx_0 X0) \wedge (v1_xcmplx_0 X1)) \Rightarrow (k3_xcmplx_0 X0 X1 = k3_xcmplx_0 X1 X0) \quad (6)$$

Assume the following.

$$\forall X0.(v1_xreal_0 X0) \Rightarrow (v1_xcmplx_0 X0) \quad (7)$$

Theorem 1

$$\begin{aligned} & \forall X0.(v1_xreal_0 X0) \Rightarrow (\forall X1.(v1_xreal_0 X1) \Rightarrow (\forall X2. \\ & (v1_xreal_0 X2) \Rightarrow (\forall X3.(v1_xreal_0 X3) \Rightarrow ((r1_xxreal_0 (\\ & k3_xcmplx_0 X2 X1) (k3_xcmplx_0 X3 X0)) \Rightarrow ((r1_xxreal_0 X0 k6_numbers) \vee \\ & ((r1_xxreal_0 k6_numbers X1) \vee (r1_xxreal_0 (k7_xcmplx_0 X3 X1) \\ & (k7_xcmplx_0 X2 X0)))))))))) \end{aligned}$$