

t27\_seq\_1 (TMbRLNwP-  
NAB6qFdYtuph8aWuvyMLVGhtmXU)

October 27, 2020

Let  $v1\_funct\_1 : \iota \Rightarrow o$  be given. Let  $v1\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k5\_numbers : \iota$  be given. Let  $k1\_numbers : \iota$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $r2\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k26\_valued\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $np\_1 : \iota$  be given. Let  $v1\_xreal\_0 : \iota \Rightarrow o$  be given. Let  $m2\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_seq\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k4\_real\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_xcmplx\_0 : \iota \Rightarrow o$  be given. Let  $k3\_xcmplx\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v2\_xxreal\_0 : \iota \Rightarrow o$  be given. Let  $v3\_membered : \iota \Rightarrow o$  be given. Let  $k24\_valued\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_relat\_1 : \iota \Rightarrow o$  be given. Let  $v3\_valued\_0 : \iota \Rightarrow o$  be given. Let  $k1\_funct\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_valued\_0 : \iota \Rightarrow o$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $v1\_partfun1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Assume the following.

$$\begin{aligned} & \forall X0.(v1\_xreal\_0 X0) \Rightarrow (\forall X1.((v1\_funct\_1 X1) \wedge ((v1\_funct\_2 \\ & X1 k5\_numbers k1\_numbers) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 \\ & k5\_numbers k1\_numbers)))))) \Rightarrow (\forall X2.((v1\_funct\_1 X2) \wedge (( \\ & v1\_funct\_2 X2 k5\_numbers k1\_numbers) \wedge (m1\_subset\_1 X2 (k1\_zfmisc\_1 \\ & (k2\_zfmisc\_1 k5\_numbers k1\_numbers)))))) \Rightarrow ((r2\_funct\_2 k5\_numbers \\ & k1\_numbers X1 (k26\_valued\_1 k5\_numbers k1\_numbers X2 X0)) \Leftrightarrow (\forall X3. \\ & (m2\_subset\_1 X3 k1\_numbers k5\_numbers) \Rightarrow (k1\_seq\_1 X1 X3 = k4\_real\_1 \\ & X0 (k1\_seq\_1 X2 X3)))))) \end{aligned} \tag{1}$$

Assume the following.

$$\forall X0.(v1\_xcmplx\_0 X0) \Rightarrow (k3\_xcmplx\_0 np\_1 X0 = X0) \tag{2}$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.(((v1\_funct\_1 X2) \wedge \\ & ((v1\_funct\_2 X2 X0 X1) \wedge (m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 \\ & X0 X1)))))) \wedge ((v1\_funct\_1 X3) \wedge ((v1\_funct\_2 X3 X0 X1) \wedge (m1\_subset\_1 \\ & X3 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1)))))) \Rightarrow ((r2\_funct\_2 X0 X1 X2 \\ & X3) \Rightarrow (r2\_funct\_2 X0 X1 X3 X2)) \end{aligned} \tag{3}$$

Assume the following.

$$\begin{aligned} & ((v2\_xreal\_0 \ np\_1) \wedge (m2\_subset\_1 \ np\_1 \ k1\_numbers \ k5\_numbers)) \wedge \\ & ((m1\_subset\_1 \ np\_1 \ k5\_numbers) \wedge (m1\_subset\_1 \ np\_1 \ k1\_numbers)) \end{aligned} \quad (4)$$

Assume the following.

$$\forall X0. \forall X1. ((v1\_xreal\_0 \ X0) \wedge (m1\_subset\_1 \ X1 \ k1\_numbers)) \Rightarrow (k4\_real\_1 \ X0 \ X1 = k3\_xcmplx\_0 \ X0 \ X1) \quad (5)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. ((v3\_membered \ X1) \wedge \\ & (((v1\_funct\_1 \ X2) \wedge (m1\_subset\_1 \ X2 \ (k1\_zfmisc\_1 \ (k2\_zfmisc\_1 \\ & X0 \ X1)))) \wedge (v1\_xreal\_0 \ X3))) \Rightarrow (k26\_valued\_1 \ X0 \ X1 \ X2 \ X3 = k24\_valued\_1 \\ & X2 \ X3) \end{aligned} \quad (6)$$

Assume the following.

$$\forall X0. \forall X1. ((v1\_relat\_1 \ X0) \wedge ((v1\_funct\_1 \ X0) \wedge (v3\_valued\_0 \ X0))) \Rightarrow (k1\_seq\_1 \ X0 \ X1 = k1\_funct\_1 \ X0 \ X1) \quad (7)$$

Assume the following.

$$\forall X0. \forall X1. ((v1\_relat\_1 \ X0) \wedge ((v1\_funct\_1 \ X0) \wedge (v1\_valued\_0 \ X0))) \Rightarrow (v1\_xcmplx\_0 \ (k1\_funct\_1 \ X0 \ X1)) \quad (8)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. (((\neg v1\_xboole\_0 \\ & X1) \wedge (v3\_membered \ X1)) \wedge (((v1\_funct\_1 \ X2) \wedge ((v1\_funct\_2 \ X2 \ X0 \ X1) \wedge \\ & (m1\_subset\_1 \ X2 \ (k1\_zfmisc\_1 \ (k2\_zfmisc\_1 \ X0 \ X1)))))) \wedge (v1\_xreal\_0 \\ & X3))) \Rightarrow ((v1\_funct\_1 \ (k24\_valued\_1 \ X2 \ X3)) \wedge (v1\_partfun1 \ (k24\_valued\_1 \\ & X2 \ X3) \ X0)) \end{aligned} \quad (9)$$

Assume the following.

$$v3\_membered \ k1\_numbers \quad (10)$$

Assume the following.

$$\neg v1\_xboole\_0 \ k1\_numbers \quad (11)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. ((v3\_membered \ X1) \wedge \\ & (((v1\_funct\_1 \ X2) \wedge (m1\_subset\_1 \ X2 \ (k1\_zfmisc\_1 \ (k2\_zfmisc\_1 \\ & X0 \ X1)))) \wedge (v1\_xreal\_0 \ X3))) \Rightarrow ((v1\_funct\_1 \ (k26\_valued\_1 \ X0 \ X1 \\ & X2 \ X3)) \wedge (m1\_subset\_1 \ (k26\_valued\_1 \ X0 \ X1 \ X2 \ X3) \ (k1\_zfmisc\_1 \ (k2\_zfmisc\_1 \\ & X0 \ k1\_numbers)))) \end{aligned} \quad (12)$$

Assume the following.

$$\forall X0.\forall X1.((v1\_relat\_1 X0)\wedge((v1\_funct\_1 X0)\wedge(v3\_valued\_0 X0)))\Rightarrow(m1\_subset\_1 (k1\_seq\_1 X0 X1) k1\_numbers) \quad (13)$$

Assume the following.

$$\forall X0.((v1\_relat\_1 X0)\wedge(v3\_valued\_0 X0))\Rightarrow((v1\_relat\_1 X0)\wedge(v1\_valued\_0 X0)) \quad (14)$$

Assume the following.

$$\forall X0.(m1\_subset\_1 X0 k1\_numbers)\Rightarrow(v1\_xreal\_0 X0) \quad (15)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1)))\Rightarrow(v1\_relat\_1 X2) \quad (16)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1)))\Rightarrow((v1\_partfun1 X2 X0)\Rightarrow(v1\_funct\_2 X2 X0 X1)) \quad (17)$$

Assume the following.

$$\forall X0.\forall X1.(v3\_membered X1)\Rightarrow(\forall X2.(m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1)))\Rightarrow(v3\_valued\_0 X2)) \quad (18)$$

**Theorem 1**

$$\forall X0.((v1\_funct\_1 X0)\wedge((v1\_funct\_2 X0 k5\_numbers k1\_numbers)\wedge(m1\_subset\_1 X0 (k1\_zfmisc\_1 (k2\_zfmisc\_1 k5\_numbers k1\_numbers))))))\Rightarrow(r2\_funct\_2 k5\_numbers k1\_numbers (k26\_valued\_1 k5\_numbers k1\_numbers X0 np\_1) X0)$$