

## t56\_comseq\_3

(TMG44pfNsRK5TUKwQnNZio4msFa5SkSGvKN)

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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  $k2\_numbers : \iota$  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  $v1\_comseq\_3 : \iota \Rightarrow o$  be given. Let  $v1\_xcmplx\_0 : \iota \Rightarrow o$  be given. Let  $k25\_valued\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k11\_comseq\_3 : \iota \Rightarrow \iota$  be given. Let  $k3\_xcmplx\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $r2\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k10\_comseq\_3 : \iota \Rightarrow \iota$  be given. Let  $v2\_comseq\_2 : \iota \Rightarrow o$  be given. Let  $k3\_comseq\_2 : \iota \Rightarrow \iota$  be given. Let  $v1\_membered : \iota \Rightarrow o$  be given. Let  $k24\_valued\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Assume the following.

$$\begin{aligned} & \forall X0.((v1\_funct\_1 X0) \wedge ((v1\_funct\_2 X0 k5\_numbers k2\_numbers) \wedge \\ & (m1\_subset\_1 X0 (k1\_zfmisc\_1 (k2\_zfmisc\_1 k5\_numbers k2\_numbers)))))) \Rightarrow \\ & (\forall X1.(v1\_xcmplx\_0 X1) \Rightarrow (r2\_funct\_2 k5\_numbers k2\_numbers \\ & (k10\_comseq\_3 (k25\_valued\_1 k5\_numbers k2\_numbers X0 X1)) (k25\_valued\_1 \\ & k5\_numbers k2\_numbers (k10\_comseq\_3 X0) X1))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0.((v1\_funct\_1 X0) \wedge ((v1\_funct\_2 X0 k5\_numbers k2\_numbers) \wedge \\ & ((v2\_comseq\_2 X0) \wedge (m1\_subset\_1 X0 (k1\_zfmisc\_1 (k2\_zfmisc\_1 \\ & k5\_numbers k2\_numbers)))))) \Rightarrow (\forall X1.(v1\_xcmplx\_0 X1) \Rightarrow ( \\ & k3\_comseq\_2 (k25\_valued\_1 k5\_numbers k2\_numbers X0 X1) = k3\_xcmplx\_0 \\ & X1 (k3\_comseq\_2 X0))) \end{aligned} \tag{2}$$

Assume the following.

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

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.((v1\_membered\ X1)\wedge \\ & (((v1\_funct\_1\ X2)\wedge(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1 \\ & X0\ X1))))\wedge(v1\_xcmplx\_0\ X3)))\Rightarrow(k25\_valued\_1\ X0\ X1\ X2\ X3 = k24\_valued\_1 \\ & X2\ X3) \end{aligned} \tag{4}$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.(((v1\_funct\_1\ X0)\wedge((v1\_funct\_2\ X0\ k5\_numbers \\ & k2\_numbers)\wedge((v2\_comseq\_2\ X0)\wedge(m1\_subset\_1\ X0\ (k1\_zfmisc\_1 \\ & (k2\_zfmisc\_1\ k5\_numbers\ k2\_numbers))))))\wedge(v1\_xcmplx\_0\ X1))\Rightarrow \\ & ((v1\_funct\_1\ (k24\_valued\_1\ X0\ X1))\wedge((v1\_funct\_2\ (k24\_valued\_1 \\ & X0\ X1)\ k5\_numbers\ k2\_numbers)\wedge(v2\_comseq\_2\ (k24\_valued\_1\ X0\ X1)))) \end{aligned} \tag{5}$$

Assume the following.

$$v1\_membered\ k2\_numbers \tag{6}$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.((v1\_membered\ X1)\wedge \\ & (((v1\_funct\_1\ X2)\wedge(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1 \\ & X0\ X1))))\wedge(v1\_xcmplx\_0\ X3)))\Rightarrow((v1\_funct\_1\ (k25\_valued\_1\ X0\ X1 \\ & X2\ X3))\wedge(m1\_subset\_1\ (k25\_valued\_1\ X0\ X1\ X2\ X3)\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1 \\ & X0\ k2\_numbers)))) \end{aligned} \tag{7}$$

Assume the following.

$$\begin{aligned} & \forall X0.((v1\_funct\_1\ X0)\wedge((v1\_funct\_2\ X0\ k5\_numbers\ k2\_numbers)\wedge \\ & (m1\_subset\_1\ X0\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ k5\_numbers\ k2\_numbers))))\Rightarrow \\ & ((v1\_funct\_1\ (k10\_comseq\_3\ X0))\wedge((v1\_funct\_2\ (k10\_comseq\_3 \\ & X0)\ k5\_numbers\ k2\_numbers)\wedge(m1\_subset\_1\ (k10\_comseq\_3\ X0)\ (k1\_zfmisc\_1 \\ & (k2\_zfmisc\_1\ k5\_numbers\ k2\_numbers)))))) \end{aligned} \tag{8}$$

Assume the following.

$$\begin{aligned} & \forall X0.((v1\_funct\_1\ X0)\wedge((v1\_funct\_2\ X0\ k5\_numbers\ k2\_numbers)\wedge \\ & (m1\_subset\_1\ X0\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ k5\_numbers\ k2\_numbers))))\Rightarrow \\ & ((v1\_comseq\_3\ X0)\Leftrightarrow(v2\_comseq\_2\ (k10\_comseq\_3\ X0))) \end{aligned} \tag{9}$$

Assume the following.

$$\begin{aligned} & \forall X0.((v1\_funct\_1\ X0)\wedge((v1\_funct\_2\ X0\ k5\_numbers\ k2\_numbers)\wedge \\ & (m1\_subset\_1\ X0\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ k5\_numbers\ k2\_numbers))))\Rightarrow \\ & (k11\_comseq\_3\ X0 = k3\_comseq\_2\ (k10\_comseq\_3\ X0)) \end{aligned} \tag{10}$$

Assume the following.

$$\begin{aligned} \forall X0.(m1\_subset\_1 X0 (k1\_zfmisc\_1 (k2\_zfmisc\_1 k5\_numbers \\ k2\_numbers))) \Rightarrow (((v1\_funct\_1 X0) \wedge ((v1\_funct\_2 X0 k5\_numbers \\ k2\_numbers) \wedge (v1\_comseq\_3 X0))) \Rightarrow ((v1\_funct\_1 X0) \wedge ((v1\_funct\_2 \\ X0 k5\_numbers k2\_numbers) \wedge (v2\_comseq\_2 X0)))) \end{aligned} \quad (11)$$

**Theorem 1**

$$\begin{aligned} \forall X0.((v1\_funct\_1 X0) \wedge ((v1\_funct\_2 X0 k5\_numbers k2\_numbers) \wedge \\ (m1\_subset\_1 X0 (k1\_zfmisc\_1 (k2\_zfmisc\_1 k5\_numbers k2\_numbers)))))) \Rightarrow \\ ((v1\_comseq\_3 X0) \Rightarrow (\forall X1.(v1\_xcmplx\_0 X1) \Rightarrow ((v1\_comseq\_3 \\ (k25\_valued\_1 k5\_numbers k2\_numbers X0 X1)) \wedge (k11\_comseq\_3 (k25\_valued\_1 \\ k5\_numbers k2\_numbers X0 X1) = k3\_xcmplx\_0 X1 (k11\_comseq\_3 X0)))))) \end{aligned}$$