

## t41\_comseq\_3

(TMHf6M2VSut1H74oFAoSW69h8GTMgfgfHUT)

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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  $v2\_comseq\_2 : \iota \Rightarrow o$  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  $k7\_comseq\_3 : \iota \Rightarrow \iota$  be given. Let  $k8\_comseq\_3 : \iota \Rightarrow \iota$  be given. Let  $k2\_seq\_2 : \iota \Rightarrow \iota$  be given. Let  $k3\_complex1 : \iota \Rightarrow \iota$  be given. Let  $k3\_comseq\_2 : \iota \Rightarrow \iota$  be given. Let  $k4\_complex1 : \iota \Rightarrow \iota$  be given. Let  $k1\_numbers : \iota$  be given. Let  $m2\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k8\_nat\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Assume the following.

$$\begin{aligned}
 & \forall X0.((v1\_funct\_1 X0) \wedge ((v1\_funct\_2 X0 k5\_numbers k1\_numbers) \wedge \\
 & (m1\_subset\_1 X0 (k1\_zfmisc\_1 (k2\_zfmisc\_1 k5\_numbers k1\_numbers)))) \Rightarrow \\
 & (\forall X1.((v1\_funct\_1 X1) \wedge ((v1\_funct\_2 X1 k5\_numbers k1\_numbers) \wedge \\
 & (m1\_subset\_1 X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 k5\_numbers k1\_numbers)))) \Rightarrow \\
 & (\forall X2.((v1\_funct\_1 X2) \wedge ((v1\_funct\_2 X2 k5\_numbers k2\_numbers) \wedge \\
 & ((v2\_comseq\_2 X2) \wedge (m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 \\
 & k5\_numbers k2\_numbers)))))) \Rightarrow ((\forall X3.(m2\_subset\_1 X3 k1\_numbers \\
 & k5\_numbers) \Rightarrow ((k3\_complex1 (k8\_nat\_1 k2\_numbers X2 X3) = k8\_nat\_1 \\
 & k1\_numbers X0 X3) \wedge (k4\_complex1 (k8\_nat\_1 k2\_numbers X2 X3) = k8\_nat\_1 \\
 & k1\_numbers X1 X3))) \Rightarrow ((v2\_comseq\_2 X0) \wedge ((v2\_comseq\_2 X1) \wedge ((k2\_seq\_2 \\
 & X0 = k3\_complex1 (k3\_comseq\_2 X2)) \wedge (k2\_seq\_2 X1 = k4\_complex1 ( \\
 & k3\_comseq\_2 X2))))))))))
 \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned}
 & \forall X0.((v1\_funct\_1 X0) \wedge ((v1\_funct\_2 X0 k5\_numbers k2\_numbers) \wedge \\
 & (m1\_subset\_1 X0 (k1\_zfmisc\_1 (k2\_zfmisc\_1 k5\_numbers k2\_numbers)))) \Rightarrow \\
 & ((v1\_funct\_1 (k8\_comseq\_3 X0)) \wedge ((v1\_funct\_2 (k8\_comseq\_3 X0) \\
 & k5\_numbers k1\_numbers) \wedge (m1\_subset\_1 (k8\_comseq\_3 X0) (k1\_zfmisc\_1 \\
 & (k2\_zfmisc\_1 k5\_numbers k1\_numbers))))))
 \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((v1\_funct\_1 X0) \wedge ((v1\_funct\_2 X0 k5\_numbers k2\_numbers) \wedge \\
& (m1\_subset\_1 X0 (k1\_zfmisc\_1 (k2\_zfmisc\_1 k5\_numbers k2\_numbers)))))) \Rightarrow \\
& ((v1\_funct\_1 (k7\_comseq\_3 X0)) \wedge ((v1\_funct\_2 (k7\_comseq\_3 X0) \\
& k5\_numbers k1\_numbers) \wedge (m1\_subset\_1 (k7\_comseq\_3 X0) (k1\_zfmisc\_1 \\
& (k2\_zfmisc\_1 k5\_numbers k1\_numbers))))))
\end{aligned} \tag{3}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((v1\_funct\_1 X0) \wedge ((v1\_funct\_2 X0 k5\_numbers k2\_numbers) \wedge \\
& (m1\_subset\_1 X0 (k1\_zfmisc\_1 (k2\_zfmisc\_1 k5\_numbers k2\_numbers)))))) \Rightarrow \\
& (\forall X1.((v1\_funct\_1 X1) \wedge ((v1\_funct\_2 X1 k5\_numbers k1\_numbers) \wedge \\
& (m1\_subset\_1 X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 k5\_numbers k1\_numbers)))))) \Rightarrow \\
& ((X1 = k8\_comseq\_3 X0) \Leftrightarrow (\forall X2.(m2\_subset\_1 X2 k1\_numbers \\
& k5\_numbers) \Rightarrow (k8\_nat\_1 k1\_numbers X1 X2 = k4\_complex1 (k8\_nat\_1 \\
& k2\_numbers X0 X2))))))
\end{aligned} \tag{4}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((v1\_funct\_1 X0) \wedge ((v1\_funct\_2 X0 k5\_numbers k2\_numbers) \wedge \\
& (m1\_subset\_1 X0 (k1\_zfmisc\_1 (k2\_zfmisc\_1 k5\_numbers k2\_numbers)))))) \Rightarrow \\
& (\forall X1.((v1\_funct\_1 X1) \wedge ((v1\_funct\_2 X1 k5\_numbers k1\_numbers) \wedge \\
& (m1\_subset\_1 X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 k5\_numbers k1\_numbers)))))) \Rightarrow \\
& ((X1 = k7\_comseq\_3 X0) \Leftrightarrow (\forall X2.(m2\_subset\_1 X2 k1\_numbers \\
& k5\_numbers) \Rightarrow (k8\_nat\_1 k1\_numbers X1 X2 = k3\_complex1 (k8\_nat\_1 \\
& k2\_numbers X0 X2))))))
\end{aligned} \tag{5}$$

**Theorem 1**

$$\begin{aligned}
& \forall X0.((v1\_funct\_1 X0) \wedge ((v1\_funct\_2 X0 k5\_numbers k2\_numbers) \wedge \\
& ((v2\_comseq\_2 X0) \wedge (m1\_subset\_1 X0 (k1\_zfmisc\_1 (k2\_zfmisc\_1 \\
& k5\_numbers k2\_numbers)))))) \Rightarrow ((v2\_comseq\_2 (k7\_comseq\_3 X0)) \wedge \\
& ((v2\_comseq\_2 (k8\_comseq\_3 X0)) \wedge ((k2\_seq\_2 (k7\_comseq\_3 X0) = \\
& k3\_complex1 (k3\_comseq\_2 X0)) \wedge (k2\_seq\_2 (k8\_comseq\_3 X0) = k4\_complex1 \\
& (k3\_comseq\_2 X0))))))
\end{aligned}$$