

# t94\_integra8 (TMSza- KQT7dpXzna1eqNjRExqkBAwBzrVHae)

October 27, 2020

Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $v2\_measure5 : \iota \Rightarrow o$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $k1\_numbers : \iota$  be given. Let  $k1\_rcomp\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k6\_numbers : \iota$  be given. Let  $k8\_real\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k32\_sin\_cos : \iota$  be given. Let  $np\_2 : \iota$  be given. Let  $k2\_integra5 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k20\_valued\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k16\_sin\_cos : \iota$  be given. Let  $k19\_sin\_cos : \iota$  be given. Let  $k10\_real\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $np\_1 : \iota$  be given. Let  $k9\_real\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k3\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k5\_seq\_4 : \iota \Rightarrow \iota$  be given. Let  $k4\_seq\_4 : \iota \Rightarrow \iota$  be given. Let  $v1\_xreal\_0 : \iota \Rightarrow o$  be given. Let  $k1\_seq\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k3\_real\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k7\_real\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_real\_1 : \iota \Rightarrow \iota$  be given. Let  $k1\_xboole\_0 : \iota$  be given. Let  $v1\_xcmplx\_0 : \iota \Rightarrow o$  be given. Let  $k3\_xcmplx\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_xcmplx\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v2\_xxreal\_0 : \iota \Rightarrow o$  be given. Let  $m2\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k5\_numbers : \iota$  be given. Let  $np\_0 : \iota$  be given. Let  $k4\_xcmplx\_0 : \iota \Rightarrow \iota$  be given. Let  $k7\_xcmplx\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k6\_xcmplx\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k4\_ordinal1 : \iota$  be given. Let  $v1\_funct\_1 : \iota \Rightarrow o$  be given. Let  $v1\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_funct\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k31\_sin\_cos : \iota$  be given. Let  $v1\_relat\_1 : \iota \Rightarrow o$  be given. Let  $v3\_valued\_0 : \iota \Rightarrow o$  be given. Let  $v1\_xxreal\_0 : \iota \Rightarrow o$  be given. Let  $v6\_membered : \iota \Rightarrow o$  be given. Let  $v3\_membered : \iota \Rightarrow o$  be given. Let  $v1\_int\_1 : \iota \Rightarrow o$  be given. Let  $v1\_membered : \iota \Rightarrow o$  be given. Let  $v7\_ordinal1 : \iota \Rightarrow o$  be given. Assume the following.

$$\begin{aligned}
 & \forall X0. ((\neg v1\_xboole\_0 X0) \wedge ((v2\_measure5 X0) \wedge (m1\_subset\_1 \\
 & X0 (k1\_zfmisc\_1 k1\_numbers)))) \Rightarrow (k2\_integra5 X0 (k20\_valued\_1 \\
 & k1\_numbers k1\_numbers k1\_numbers k16\_sin\_cos k19\_sin\_cos) = k8\_real\_1 \\
 & (k10\_real\_1 np\_1 np\_2) (k9\_real\_1 (k8\_real\_1 (k3\_funct\_2 k1\_numbers \\
 & k1\_numbers k19\_sin\_cos (k5\_seq\_4 X0)) (k3\_funct\_2 k1\_numbers \\
 & k1\_numbers k19\_sin\_cos (k5\_seq\_4 X0))) (k8\_real\_1 (k3\_funct\_2 \\
 & k1\_numbers k1\_numbers k19\_sin\_cos (k4\_seq\_4 X0)) (k3\_funct\_2 \\
 & k1\_numbers k1\_numbers k19\_sin\_cos (k4\_seq\_4 X0))))
 \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(v1\_xreal\_0 X0) \Rightarrow ((k1\_seq\_1 k16\_sin\_cos (k3\_real\_1 \\
& X0 (k8\_real\_1 np\_2 k32\_sin\_cos)) = k1\_seq\_1 k16\_sin\_cos X0) \wedge ( \\
& (k1\_seq\_1 k19\_sin\_cos (k3\_real\_1 X0 (k8\_real\_1 np\_2 k32\_sin\_cos)) = \\
& k1\_seq\_1 k19\_sin\_cos X0) \wedge ((k1\_seq\_1 k16\_sin\_cos (k9\_real\_1 ( \\
& k10\_real\_1 k32\_sin\_cos np\_2) X0) = k1\_seq\_1 k19\_sin\_cos X0) \wedge ( \\
& (k1\_seq\_1 k19\_sin\_cos (k9\_real\_1 (k10\_real\_1 k32\_sin\_cos np\_2) \\
& X0) = k1\_seq\_1 k16\_sin\_cos X0) \wedge ((k1\_seq\_1 k16\_sin\_cos (k7\_real\_1 \\
& (k10\_real\_1 k32\_sin\_cos np\_2) X0) = k1\_seq\_1 k19\_sin\_cos X0) \wedge \\
& ((k1\_seq\_1 k19\_sin\_cos (k7\_real\_1 (k10\_real\_1 k32\_sin\_cos np\_2) \\
& X0) = k1\_real\_1 (k1\_seq\_1 k16\_sin\_cos X0)) \wedge ((k1\_seq\_1 k16\_sin\_cos \\
& (k7\_real\_1 k32\_sin\_cos X0) = k1\_real\_1 (k1\_seq\_1 k16\_sin\_cos X0)) \wedge \\
& (k1\_seq\_1 k19\_sin\_cos (k7\_real\_1 k32\_sin\_cos X0) = k1\_real\_1 ( \\
& k1\_seq\_1 k19\_sin\_cos X0)))))))))
\end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned}
& (k1\_seq\_1 k19\_sin\_cos (k10\_real\_1 k32\_sin\_cos np\_2) = k6\_numbers) \wedge \\
& ((k1\_seq\_1 k16\_sin\_cos (k10\_real\_1 k32\_sin\_cos np\_2) = np\_1) \wedge \\
& ((k1\_seq\_1 k19\_sin\_cos k32\_sin\_cos = k1\_real\_1 np\_1) \wedge ((k1\_seq\_1 \\
& k16\_sin\_cos k32\_sin\_cos = k6\_numbers) \wedge ((k1\_seq\_1 k19\_sin\_cos \\
& (k7\_real\_1 k32\_sin\_cos (k10\_real\_1 k32\_sin\_cos np\_2)) = k6\_numbers) \wedge \\
& ((k1\_seq\_1 k16\_sin\_cos (k7\_real\_1 k32\_sin\_cos (k10\_real\_1 k32\_sin\_cos \\
& np\_2)) = k1\_real\_1 np\_1) \wedge ((k1\_seq\_1 k19\_sin\_cos (k8\_real\_1 \\
& np\_2 k32\_sin\_cos) = np\_1) \wedge (k1\_seq\_1 k16\_sin\_cos (k8\_real\_1 \\
& np\_2 k32\_sin\_cos) = k6\_numbers)))))))))
\end{aligned} \tag{3}$$

Assume the following.

$$\forall X0.(v1\_xboole\_0 X0) \Rightarrow (X0 = k1\_xboole\_0) \tag{4}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(m1\_subset\_1 X0 k1\_numbers) \Rightarrow (\forall X1.(m1\_subset\_1 \\
& X1 k1\_numbers) \Rightarrow (\forall X2.((\neg v1\_xboole\_0 X2) \wedge ((v2\_measure5 \\
& X2) \wedge (m1\_subset\_1 X2 (k1\_zfmisc\_1 k1\_numbers)))) \Rightarrow ((X2 = k1\_rcomp\_1 \\
& X0 X1) \Rightarrow ((k4\_seq\_4 X2 = X1) \wedge (k5\_seq\_4 X2 = X0))))))
\end{aligned} \tag{5}$$

Assume the following.

$$\forall X0.(v1\_xcmplx\_0 X0) \Rightarrow (k3\_xcmplx\_0 X0 k6\_numbers = k6\_numbers) \tag{6}$$

Assume the following.

$$\forall X0.\forall X1.(X0 \in X1) \Rightarrow (m1\_subset\_1 X0 X1) \tag{7}$$

Assume the following.

$$\forall X0.(v1\_xcmplx\_0 X0) \Rightarrow (k2\_xcmplx\_0 X0 k6\_numbers = X0) \tag{8}$$

Assume the following.

$$\begin{aligned} & ((v2\_xxreal\_0 \ np\_2) \wedge (m2\_subset\_1 \ np\_2 \ k1\_numbers \ k5\_numbers)) \wedge \\ & ((m1\_subset\_1 \ np\_2 \ k5\_numbers) \wedge (m1\_subset\_1 \ np\_2 \ k1\_numbers)) \end{aligned} \quad (9)$$

Assume the following.

$$\begin{aligned} & ((v2\_xxreal\_0 \ np\_1) \wedge (m2\_subset\_1 \ np\_1 \ k1\_numbers \ k5\_numbers)) \wedge \\ & ((m1\_subset\_1 \ np\_1 \ k5\_numbers) \wedge (m1\_subset\_1 \ np\_1 \ k1\_numbers)) \end{aligned} \quad (10)$$

Assume the following.

$$\begin{aligned} & (m2\_subset\_1 \ np\_0 \ k1\_numbers \ k5\_numbers) \wedge ((m1\_subset\_1 \ np\_0 \\ & \quad k5\_numbers) \wedge (m1\_subset\_1 \ np\_0 \ k1\_numbers)) \end{aligned} \quad (11)$$

Assume the following.

$$v1\_xboole\_0 \ np\_0 \quad (12)$$

Assume the following.

$$\begin{aligned} & k4\_xcmplx\_0 \ (k7\_xcmplx\_0 \ (k4\_xcmplx\_0 \ np\_1) \ np\_2) = k7\_xcmplx\_0 \\ & \quad np\_1 \ np\_2 \end{aligned} \quad (13)$$

Assume the following.

$$\begin{aligned} & k4\_xcmplx\_0 \ (k7\_xcmplx\_0 \ np\_1 \ np\_2) = k7\_xcmplx\_0 \ (k4\_xcmplx\_0 \\ & \quad np\_1) \ np\_2 \end{aligned} \quad (14)$$

Assume the following.

$$k3\_xcmplx\_0 \ np\_1 \ np\_1 = np\_1 \quad (15)$$

Assume the following.

$$\begin{aligned} & k7\_xcmplx\_0 \ np\_1 \ (k4\_xcmplx\_0 \ np\_2) = k7\_xcmplx\_0 \ (k4\_xcmplx\_0 \\ & \quad np\_1) \ np\_2 \end{aligned} \quad (16)$$

Assume the following.

$$k6\_xcmplx\_0 \ np\_1 \ np\_1 = np\_0 \quad (17)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((m1\_subset\_1 \ X0 \ k1\_numbers) \wedge (v1\_xreal\_0 \\ & \quad X1)) \Rightarrow (k9\_real\_1 \ X0 \ X1 = k6\_xcmplx\_0 \ X0 \ X1) \end{aligned} \quad (18)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((m1\_subset\_1 \ X0 \ k1\_numbers) \wedge (v1\_xreal\_0 \\ & \quad X1)) \Rightarrow (k8\_real\_1 \ X0 \ X1 = k3\_xcmplx\_0 \ X0 \ X1) \end{aligned} \quad (19)$$

Assume the following.

$$\forall X0.\forall X1.((m1\_subset\_1 X0 k1\_numbers)\wedge(v1\_xreal\_0 X1))\Rightarrow(k7\_real\_1 X0 X1 = k2\_xcmplx\_0 X0 X1) \quad (20)$$

Assume the following.

$$k6\_numbers = k1\_xboole\_0 \quad (21)$$

Assume the following.

$$k5\_numbers = k4\_ordinal1 \quad (22)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.((-v1\_xboole\_0 X0)\wedge \\ & (((v1\_funct\_1 X2)\wedge((v1\_funct\_2 X2 X0 X1)\wedge(m1\_subset\_1 X2 (k1\_zfmisc\_1 \\ & (k2\_zfmisc\_1 X0 X1))))))\wedge(m1\_subset\_1 X3 X0)))\Rightarrow(k3\_funct\_2 X0 \\ & X1 X2 X3 = k1\_funct\_1 X2 X3) \end{aligned} \quad (23)$$

Assume the following.

$$k32\_sin\_cos = k31\_sin\_cos \quad (24)$$

Assume the following.

$$\forall X0.\forall X1.((v1\_relat\_1 X0)\wedge((v1\_funct\_1 X0)\wedge(v3\_valued\_0 X0)))\Rightarrow(k1\_seq\_1 X0 X1 = k1\_funct\_1 X0 X1) \quad (25)$$

Assume the following.

$$\forall X0.\forall X1.((m1\_subset\_1 X0 k1\_numbers)\wedge(v1\_xreal\_0 X1))\Rightarrow(k10\_real\_1 X0 X1 = k7\_xcmplx\_0 X0 X1) \quad (26)$$

Assume the following.

$$\exists X0.(v1\_xboole\_0 X0)\wedge((v1\_xcmplx\_0 X0)\wedge((v1\_xxreal\_0 X0)\wedge(v1\_xreal\_0 X0))) \quad (27)$$

Assume the following.

$$\forall X0.(m1\_subset\_1 X0 k1\_numbers)\Rightarrow(k1\_real\_1 (k1\_real\_1 X0) = X0) \quad (28)$$

Assume the following.

$$\forall X0.\forall X1.((v1\_xreal\_0 X0)\wedge(v1\_xreal\_0 X1))\Rightarrow(v1\_xreal\_0 (k7\_xcmplx\_0 X0 X1)) \quad (29)$$

Assume the following.

$$v6\_membered k4\_ordinal1 \quad (30)$$

Assume the following.

$$\forall X0.(v1\_xreal\_0 X0) \Rightarrow ((v1\_xcmplx\_0 (k4\_xcmplx\_0 X0)) \wedge (v1\_xreal\_0 (k4\_xcmplx\_0 X0))) \quad (31)$$

Assume the following.

$$v3\_membered\ k1\_numbers \quad (32)$$

Assume the following.

$$\forall X0.(v1\_int\_1 X0) \Rightarrow ((v1\_xcmplx\_0 (k4\_xcmplx\_0 X0)) \wedge (v1\_int\_1 (k4\_xcmplx\_0 X0))) \quad (33)$$

Assume the following.

$$\neg v1\_xboole\_0\ k1\_numbers \quad (34)$$

Assume the following.

$$\forall X0.\forall X1.((m1\_subset\_1 X0\ k1\_numbers) \wedge (v1\_xreal\_0 X1)) \Rightarrow (m1\_subset\_1 (k8\_real\_1 X0\ X1)\ k1\_numbers) \quad (35)$$

Assume the following.

$$m1\_subset\_1\ k32\_sin\_cos\ k1\_numbers \quad (36)$$

Assume the following.

$$v1\_xreal\_0\ k31\_sin\_cos \quad (37)$$

Assume the following.

$$\forall X0.(m1\_subset\_1 X0\ k1\_numbers) \Rightarrow (m1\_subset\_1 (k1\_real\_1 X0)\ k1\_numbers) \quad (38)$$

Assume the following.

$$(v1\_funct\_1\ k19\_sin\_cos) \wedge ((v1\_funct\_2\ k19\_sin\_cos\ k1\_numbers\ k1\_numbers) \wedge (m1\_subset\_1\ k19\_sin\_cos\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ k1\_numbers\ k1\_numbers)))) \quad (39)$$

Assume the following.

$$\forall X0.\forall X1.((m1\_subset\_1 X0\ k1\_numbers) \wedge (v1\_xreal\_0 X1)) \Rightarrow (m1\_subset\_1 (k10\_real\_1 X0\ X1)\ k1\_numbers) \quad (40)$$

Assume the following.

$$\forall X0.(v1\_xreal\_0 X0) \Leftrightarrow (X0 \in k1\_numbers) \quad (41)$$

Assume the following.

$$\forall X0.\forall X1.((m1\_subset\_1 X0\ k1\_numbers) \wedge (v1\_xreal\_0 X1)) \Rightarrow (k8\_real\_1 X0\ X1 = k8\_real\_1 X1\ X0) \quad (42)$$

Assume the following.

$$\forall X0.(v3\_membered\ X0)\Rightarrow(v1\_membered\ X0) \quad (43)$$

Assume the following.

$$\forall X0.(v1\_int\_1\ X0)\Rightarrow(v1\_xreal\_0\ X0) \quad (44)$$

Assume the following.

$$\forall X0.(v7\_ordinal1\ X0)\Rightarrow(v1\_int\_1\ X0) \quad (45)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X1)))\Rightarrow(v1\_relat\_1\ X2) \quad (46)$$

Assume the following.

$$\forall X0.\forall X1.(v3\_membered\ X1)\Rightarrow(\forall X2.(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X1)))\Rightarrow(v3\_valued\_0\ X2)) \quad (47)$$

Assume the following.

$$\forall X0.(v6\_membered\ X0)\Rightarrow(\forall X1.(m1\_subset\_1\ X1\ X0)\Rightarrow(v7\_ordinal1\ X1)) \quad (48)$$

Assume the following.

$$\forall X0.(v3\_membered\ X0)\Rightarrow(\forall X1.(m1\_subset\_1\ X1\ X0)\Rightarrow(v1\_xreal\_0\ X1)) \quad (49)$$

Assume the following.

$$\forall X0.(v1\_membered\ X0)\Rightarrow(\forall X1.(m1\_subset\_1\ X1\ X0)\Rightarrow(v1\_xcmplx\_0\ X1)) \quad (50)$$

**Theorem 1**

$$\forall X0.((\neg v1\_xboole\_0\ X0)\wedge((v2\_measure5\ X0)\wedge(m1\_subset\_1\ X0\ (k1\_zfmisc\_1\ k1\_numbers))))\Rightarrow((X0 = k1\_rcomp\_1\ k6\_numbers\ (k8\_real\_1\ k32\_sin\_cos\ np\_2))\Rightarrow(k2\_integra5\ X0\ (k20\_valued\_1\ k1\_numbers\ k1\_numbers\ k1\_numbers\ k16\_sin\_cos\ k19\_sin\_cos) = k6\_numbers))$$