

# t33.integra9 (TMWipWN- ThWq7p9VN5VV3UeuyG3NWrkVoYQo)

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Let  $v1\_funct\_1 : \iota \Rightarrow o$  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  $k1\_numbers : \iota$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $v2\_measure5 : \iota \Rightarrow o$  be given. Let  $v1\_partfun1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_integra5 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k20\_valued\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_comseq\_2 : \iota \Rightarrow o$  be given. Let  $k2\_partfun1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v3\_integra1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $r1\_xxreal\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k6\_numbers : \iota$  be given. Let  $k1\_seq\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_integra9 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k12\_integra1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v3\_membered : \iota \Rightarrow o$  be given. Let  $k2\_integra5 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v1\_xboole\_0 X0) \wedge ((v2\_measure5 X0) \wedge (m1\_subset\_1 \\
& \quad X0 (k1\_zfmisc\_1 k1\_numbers)))) \Rightarrow (\forall X1.((v1\_funct\_1 X1) \wedge \\
& ((v1\_funct\_2 X1 X0 k1\_numbers) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 ( \\
& \quad k2\_zfmisc\_1 X0 k1\_numbers)))))) \Rightarrow (((v1\_comseq\_2 (k2\_partfun1 \\
& \quad X0 k1\_numbers X1 X0)) \wedge (\forall X2.(m1\_subset\_1 X2 k1\_numbers) \Rightarrow \\
& ((X2 \in X0) \Rightarrow (r1\_xxreal\_0 k6\_numbers (k1\_seq\_1 X1 X2)))))) \Rightarrow (r1\_xxreal\_0 \\
& \quad k6\_numbers (k12\_integra1 X0 X1)))
\end{aligned} \tag{1}$$

Assume the following.

$$v3\_membered k1\_numbers \tag{2}$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. \forall X2. \forall X3. \forall X4. ((v3\_membered \\
& X1) \wedge ((v3\_membered X2) \wedge (((v1\_funct\_1 X3) \wedge (m1\_subset\_1 X3 (k1\_zfmisc\_1 \\
& (k2\_zfmisc\_1 X0 X1)))) \wedge ((v1\_funct\_1 X4) \wedge (m1\_subset\_1 X4 (k1\_zfmisc\_1 \\
& (k2\_zfmisc\_1 X0 X2))))))) \Rightarrow ((v1\_funct\_1 (k20\_valued\_1 X0 X1 X2 \\
& X3 X4)) \wedge (m1\_subset\_1 (k20\_valued\_1 X0 X1 X2 X3 X4) (k1\_zfmisc\_1 \\
& (k2\_zfmisc\_1 X0 k1\_numbers))))
\end{aligned} \tag{3}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (((v1\_funct\_1 X0) \wedge (m1\_subset\_1 X0 (k1\_zfmisc\_1 \\ & (k2\_zfmisc\_1 k1\_numbers k1\_numbers)))) \wedge ((\neg v1\_xboole\_0 X1) \wedge \\ & (m1\_subset\_1 X1 (k1\_zfmisc\_1 k1\_numbers)))) \Rightarrow ((v1\_funct\_1 (k1\_integra5 \\ & X0 X1)) \wedge (m1\_subset\_1 (k1\_integra5 X0 X1) (k1\_zfmisc\_1 (k2\_zfmisc\_1 \\ & X1 k1\_numbers)))) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v1\_xboole\_0 X0) \wedge ((v2\_measure5 X0) \wedge (m1\_subset\_1 \\ & X0 (k1\_zfmisc\_1 k1\_numbers)))) \Rightarrow (\forall X1. ((v1\_funct\_1 X1) \wedge \\ & (m1\_subset\_1 X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 k1\_numbers k1\_numbers)))) \Rightarrow \\ & (k2\_integra5 X0 X1 = k12\_integra1 X0 (k1\_integra5 X1 X0))) \end{aligned} \quad (5)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v1\_xboole\_0 X0) \wedge ((v2\_measure5 X0) \wedge (m1\_subset\_1 \\ & X0 (k1\_zfmisc\_1 k1\_numbers)))) \Rightarrow (\forall X1. ((v1\_funct\_1 X1) \wedge \\ & (m1\_subset\_1 X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 k1\_numbers k1\_numbers)))) \Rightarrow \\ & (\forall X2. ((v1\_funct\_1 X2) \wedge (m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 \\ & k1\_numbers k1\_numbers)))) \Rightarrow (k1\_integra9 X0 X1 X2 = k2\_integra5 \\ & X0 (k20\_valued\_1 k1\_numbers k1\_numbers k1\_numbers X1 X2)))) \end{aligned} \quad (6)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. (m1\_subset\_1 X2 (k1\_zfmisc\_1 \\ & (k2\_zfmisc\_1 X0 X1))) \Rightarrow ((v1\_partfun1 X2 X0) \Rightarrow (v1\_funct\_2 X2 X0 X1)) \end{aligned} \quad (7)$$

### Theorem 1

$$\begin{aligned} & \forall X0. ((v1\_funct\_1 X0) \wedge (m1\_subset\_1 X0 (k1\_zfmisc\_1 (k2\_zfmisc\_1 \\ & k1\_numbers k1\_numbers)))) \Rightarrow (\forall X1. ((\neg v1\_xboole\_0 X1) \wedge \\ & (v2\_measure5 X1) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 k1\_numbers)))) \Rightarrow \\ & (((v1\_partfun1 (k1\_integra5 (k20\_valued\_1 k1\_numbers k1\_numbers \\ & k1\_numbers X0 X0) X1) X1) \wedge ((v1\_comseq\_2 (k2\_partfun1 X1 k1\_numbers \\ & (k1\_integra5 (k20\_valued\_1 k1\_numbers k1\_numbers k1\_numbers \\ & X0 X0) X1) X1)) \wedge ((v3\_integra1 (k1\_integra5 (k20\_valued\_1 k1\_numbers \\ & k1\_numbers k1\_numbers X0 X0) X1) X1) \wedge (\forall X2. (m1\_subset\_1 \\ & X2 k1\_numbers) \Rightarrow ((X2 \in X1) \Rightarrow (r1\_xreal\_0 k6\_numbers (k1\_seq\_1 ( \\ & k1\_integra5 (k20\_valued\_1 k1\_numbers k1\_numbers k1\_numbers X0 \\ & X0) X1) X2)))))) \Rightarrow (r1\_xreal\_0 k6\_numbers (k1\_integra9 X1 X0 X0)))) \end{aligned}$$