

## t16\_integr19

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Let  $m2\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_numbers : \iota$  be given. Let  $k5\_numbers : \iota$  be given. 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  $v1\_funct\_1 : \iota \Rightarrow o$  be given. Let  $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_euclid : \iota \Rightarrow \iota$  be given. Let  $v1\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v3\_integr15 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v1\_integr15 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k4\_ordinal1 : \iota$  be given. Let  $k1\_partfun1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k3\_relat\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v3\_ordinal1 : \iota \Rightarrow o$  be given. Let  $v7\_ordinal1 : \iota \Rightarrow o$  be given. Let  $k1\_pdif1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_finseq\_1 : \iota \Rightarrow \iota$  be given. Let  $v1\_comseq\_2 : \iota \Rightarrow o$  be given. Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((\neg v1\_xboole\_0 X0) \wedge ((\neg v1\_xboole\_0 X1) \wedge \\ & (m1\_subset\_1 X1 (k1\_zfmisc\_1 X0)))) \Rightarrow (\forall X2. (m2\_subset\_1 \\ & X2 X0 X1) \Leftrightarrow (m1\_subset\_1 X2 X1)) \end{aligned} \quad (1)$$

Assume the following.

$$k5\_numbers = k4\_ordinal1 \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. \forall X4. \forall X5. \\ & (((v1\_funct\_1 X4) \wedge (m1\_subset\_1 X4 (k1\_zfmisc\_1 (k2\_zfmisc\_1 \\ & X0 X1)))) \wedge ((v1\_funct\_1 X5) \wedge (m1\_subset\_1 X5 (k1\_zfmisc\_1 (k2\_zfmisc\_1 \\ & X2 X3)))) \Rightarrow (k1\_partfun1 X0 X1 X2 X3 X4 X5 = k3\_relat\_1 X4 X5) \end{aligned} \quad (3)$$

Assume the following.

$$(\neg v1\_xboole\_0 k4\_ordinal1) \wedge (v3\_ordinal1 k4\_ordinal1) \quad (4)$$

Assume the following.

$$\neg v1\_xboole\_0 k1\_numbers \quad (5)$$

Assume the following.

$$m1\_subset\_1 k5\_numbers (k1\_zfmisc\_1 k1\_numbers) \quad (6)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((v7\_ordinal1\ X0) \wedge (v7\_ordinal1\ X1)) \Rightarrow ( \\ & (v1\_funct\_1\ (k1\_pdiff\_1\ X0\ X1)) \wedge ((v1\_funct\_2\ (k1\_pdiff\_1\ X0\ X1) \\ & (k1\_euclid\ X1)\ k1\_numbers) \wedge (m1\_subset\_1\ (k1\_pdiff\_1\ X0\ X1)\ (k1\_zfmisc\_1 \\ & (k2\_zfmisc\_1\ (k1\_euclid\ X1)\ k1\_numbers)))))) \end{aligned} \quad (7)$$

Assume the following.

$$\begin{aligned} & \forall X0. (m2\_subset\_1\ X0\ k1\_numbers\ k5\_numbers) \Rightarrow (\forall X1. \\ & ((v1\_funct\_1\ X1) \wedge (m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ k1\_numbers \\ & (k1\_euclid\ X0)))))) \Rightarrow ((v3\_integr15\ X1\ X0) \Leftrightarrow (\forall X2. (m2\_subset\_1 \\ & X2\ k1\_numbers\ k5\_numbers) \Rightarrow ((X2 \in k2\_finseq\_1\ X0) \Rightarrow (v1\_comseq\_2 \\ & (k1\_partfun1\ k1\_numbers\ (k1\_euclid\ X0)\ (k1\_euclid\ X0)\ k1\_numbers \\ & X1\ (k1\_pdiff\_1\ X2\ X0)))))) \end{aligned} \quad (8)$$

Assume the following.

$$\begin{aligned} & \forall X0. (m2\_subset\_1\ X0\ k1\_numbers\ k5\_numbers) \Rightarrow (\forall X1. \\ & ((\neg v1\_xboole\_0\ X1) \wedge ((v2\_measure5\ X1) \wedge (m1\_subset\_1\ X1\ (k1\_zfmisc\_1 \\ & k1\_numbers)))) \Rightarrow (\forall X2. ((v1\_funct\_1\ X2) \wedge ((v1\_funct\_2\ X2 \\ & X1\ (k1\_euclid\ X0)) \wedge (m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1 \\ & X1\ (k1\_euclid\ X0)))))) \Rightarrow ((v1\_integr15\ X2\ X0\ X1) \Leftrightarrow (\forall X3. (m2\_subset\_1 \\ & X3\ k1\_numbers\ k5\_numbers) \Rightarrow ((X3 \in k2\_finseq\_1\ X0) \Rightarrow (v1\_comseq\_2 \\ & (k1\_partfun1\ X1\ (k1\_euclid\ X0)\ (k1\_euclid\ X0)\ k1\_numbers\ X2\ (k1\_pdiff\_1 \\ & X3\ X0)))))) \end{aligned} \quad (9)$$

Assume the following.

$$\forall X0. (m1\_subset\_1\ X0\ k4\_ordinal1) \Rightarrow (v7\_ordinal1\ X0) \quad (10)$$

**Theorem 1**

$$\begin{aligned} & \forall X0. (m2\_subset\_1\ X0\ k1\_numbers\ k5\_numbers) \Rightarrow (\forall X1. \\ & ((\neg v1\_xboole\_0\ X1) \wedge ((v2\_measure5\ X1) \wedge (m1\_subset\_1\ X1\ (k1\_zfmisc\_1 \\ & k1\_numbers)))) \Rightarrow (\forall X2. ((v1\_funct\_1\ X2) \wedge (m1\_subset\_1\ X2 \\ & (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ k1\_numbers\ (k1\_euclid\ X0)))))) \Rightarrow (\forall X3. \\ & ((v1\_funct\_1\ X3) \wedge ((v1\_funct\_2\ X3\ X1\ (k1\_euclid\ X0)) \wedge (m1\_subset\_1 \\ & X3\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X1\ (k1\_euclid\ X0)))))) \Rightarrow (((v3\_integr15 \\ & X2\ X0) \wedge (X2 = X3)) \Rightarrow (v1\_integr15\ X3\ X0\ X1)))) \end{aligned}$$