

## t17\_hfdiff\_1

(TMLbN6yE1WVvor88ykXnFZJ8q7nJWKt2yjCC)

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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  $v3\_rcomp\_1 : \iota \Rightarrow o$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $v1\_funct\_1 : \iota \Rightarrow o$  be given. Let  $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $r1\_taylor\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $r1\_xxreal\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $r2\_relset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_seqfunc : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k5\_taylor\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k3\_valued\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v7\_ordinal1 : \iota \Rightarrow o$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $k4\_ordinal1 : \iota$  be given. Let  $v3\_ordinal1 : \iota \Rightarrow o$  be given. Assume the following.

$$\begin{aligned} \forall X0.((v1\_funct\_1 X0) \wedge (m1\_subset\_1 X0 (k1\_zfmisc\_1 (k2\_zfmisc\_1 \\ k1\_numbers k1\_numbers)))) \Rightarrow (\forall X1.(m1\_subset\_1 X1 (k1\_zfmisc\_1 \\ k1\_numbers)) \Rightarrow (\forall X2.(v7\_ordinal1 X2) \Rightarrow ((r1\_taylor\_1 X0 \\ X2 X1) \Rightarrow (\forall X3.(v7\_ordinal1 X3) \Rightarrow ((r1\_xxreal\_0 X3 X2) \Rightarrow (r1\_taylor\_1 \\ X0 X3 X1)))))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} \forall X0.(m2\_subset\_1 X0 k1\_numbers k5\_numbers) \Rightarrow (\forall X1. \\ ((v3\_rcomp\_1 X1) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 k1\_numbers))) \Rightarrow \\ (\forall X2.((v1\_funct\_1 X2) \wedge (m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 \\ k1\_numbers k1\_numbers)))) \Rightarrow (\forall X3.((v1\_funct\_1 X3) \wedge (m1\_subset\_1 \\ X3 (k1\_zfmisc\_1 (k2\_zfmisc\_1 k1\_numbers k1\_numbers)))) \Rightarrow (((r1\_taylor\_1 \\ X2 X0 X1) \wedge (r1\_taylor\_1 X3 X0 X1)) \Rightarrow (r2\_relset\_1 k1\_numbers k1\_numbers \\ (k1\_seqfunc k1\_numbers k1\_numbers (k5\_taylor\_1 (k3\_valued\_1 \\ k1\_numbers k1\_numbers k1\_numbers X2 X3) X1) X0) (k3\_valued\_1 k1\_numbers \\ k1\_numbers k1\_numbers (k1\_seqfunc k1\_numbers k1\_numbers (k5\_taylor\_1 \\ X2 X1) X0) (k1\_seqfunc k1\_numbers k1\_numbers (k5\_taylor\_1 X3 X1) \\ X0)))))) \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned} \forall X0. \forall X1. ((\neg v1\_xboole\_0 X0) \wedge ((\neg v1\_xboole\_0 X1) \wedge \\ (m1\_subset\_1 X1 (k1\_zfmisc\_1 X0)))) \Rightarrow (\forall X2.(m2\_subset\_1 \\ X2 X0 X1) \Leftrightarrow (m1\_subset\_1 X2 X1)) \end{aligned} \tag{3}$$

Assume the following.

$$k5\_numbers = k4\_ordinal1 \quad (4)$$

Assume the following.

$$(\neg v1\_xboole\_0 k4\_ordinal1) \wedge (v3\_ordinal1 k4\_ordinal1) \quad (5)$$

Assume the following.

$$\neg v1\_xboole\_0 k1\_numbers \quad (6)$$

Assume the following.

$$m1\_subset\_1 k5\_numbers (k1\_zfmisc\_1 k1\_numbers) \quad (7)$$

Assume the following.

$$\forall X0.(m1\_subset\_1 X0 k4\_ordinal1) \Rightarrow (v7\_ordinal1 X0) \quad (8)$$

**Theorem 1**

$$\begin{aligned} & \forall X0.(m2\_subset\_1 X0 k1\_numbers k5\_numbers) \Rightarrow (\forall X1. \\ & (m2\_subset\_1 X1 k1\_numbers k5\_numbers) \Rightarrow (\forall X2. ((v3\_rcomp\_1 \\ & X2) \wedge (m1\_subset\_1 X2 (k1\_zfmisc\_1 k1\_numbers))) \Rightarrow (\forall X3. \\ & ((v1\_funct\_1 X3) \wedge (m1\_subset\_1 X3 (k1\_zfmisc\_1 (k2\_zfmisc\_1 k1\_numbers \\ & k1\_numbers)))) \Rightarrow (\forall X4. ((v1\_funct\_1 X4) \wedge (m1\_subset\_1 X4 \\ & (k1\_zfmisc\_1 (k2\_zfmisc\_1 k1\_numbers k1\_numbers)))) \Rightarrow (((r1\_taylor\_1 \\ & X3 X0 X2) \wedge ((r1\_taylor\_1 X4 X0 X2) \wedge (r1\_xxreal\_0 X1 X0))) \Rightarrow (r2\_relset\_1 \\ & k1\_numbers k1\_numbers (k1\_seqfunc k1\_numbers k1\_numbers (k5\_taylor\_1 \\ & (k3\_valued\_1 k1\_numbers k1\_numbers k1\_numbers X3 X4) X2) X1) (k3\_valued\_1 \\ & k1\_numbers k1\_numbers k1\_numbers (k1\_seqfunc k1\_numbers k1\_numbers \\ & (k5\_taylor\_1 X3 X2) X1) (k1\_seqfunc k1\_numbers k1\_numbers (k5\_taylor\_1 \\ & X4 X2) X1))))))))) \end{aligned}$$