

## t20\_chain\_1

(TMZDXFJfS92HnYAFaKvqP2sVwwp9R5Ci7Vm)

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Let  $v1\_zfmisc\_1 : \iota \Rightarrow o$  be given. Let  $v1\_finset\_1 : \iota \Rightarrow o$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $k1\_numbers : \iota$  be given. Let  $m2\_chain\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_domain\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_xreal\_0 : \iota \Rightarrow o$  be given. Let  $r1\_xreal\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v1\_xreal\_0 : \iota \Rightarrow o$  be given. Assume the following.

$$\forall X0.(v1\_xreal\_0 X0) \Rightarrow (\forall X1.(v1\_xreal\_0 X1) \Rightarrow ((r1\_xreal\_0 X0 X1) \wedge (r1\_xreal\_0 X1 X0)) \Rightarrow (X0 = X1)) \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v1\_zfmisc\_1 X0) \wedge ((v1\_finset\_1 X0) \wedge (m1\_subset\_1 \\ & X0 (k1\_zfmisc\_1 k1\_numbers)))) \Rightarrow (\forall X1.(m1\_subset\_1 X1 k1\_numbers) \Rightarrow \\ & (\forall X2.(m1\_subset\_1 X2 k1\_numbers) \Rightarrow ((m2\_chain\_1 (k1\_domain\_1 \\ & k1\_numbers k1\_numbers X1 X2) X0) \Leftrightarrow ((X1 \in X0) \wedge ((X2 \in X0) \wedge ((\neg r1\_xreal\_0 \\ & X2 X1) \wedge (\forall X3.(m1\_subset\_1 X3 k1\_numbers) \Rightarrow (\neg (X3 \in X0) \wedge (( \\ & \neg r1\_xreal\_0 X3 X1) \wedge (\neg r1\_xreal\_0 X2 X3)))))) \vee ((\neg r1\_xreal\_0 \\ & X1 X2) \wedge (\forall X3.(m1\_subset\_1 X3 k1\_numbers) \Rightarrow ((X3 \in X0) \Rightarrow ((r1\_xreal\_0 \\ & X3 X1) \wedge (r1\_xreal\_0 X2 X3)))))))))) \quad (2) \end{aligned}$$

Assume the following.

$$\forall X0.(v1\_xreal\_0 X0) \Rightarrow (v1\_xreal\_0 X0) \quad (3)$$

Assume the following.

$$\forall X0.(m1\_subset\_1 X0 k1\_numbers) \Rightarrow (v1\_xreal\_0 X0) \quad (4)$$

### Theorem 1

$$\begin{aligned} & \forall X0.((\neg v1\_zfmisc\_1 X0) \wedge ((v1\_finset\_1 X0) \wedge (m1\_subset\_1 \\ & X0 (k1\_zfmisc\_1 k1\_numbers)))) \Rightarrow (\forall X1.(m1\_subset\_1 X1 k1\_numbers) \Rightarrow \\ & (\forall X2.(m1\_subset\_1 X2 k1\_numbers) \Rightarrow (\forall X3.(m1\_subset\_1 \\ & X3 k1\_numbers) \Rightarrow (((m2\_chain\_1 (k1\_domain\_1 k1\_numbers k1\_numbers \\ & X1 X2) X0) \wedge (m2\_chain\_1 (k1\_domain\_1 k1\_numbers k1\_numbers X1 X3) \\ & X0)) \Rightarrow (X2 = X3)))))) \end{aligned}$$