

t12\_midsp\_3  
(TMTzfQqQZDipRGS7MqaHNNKY19q6Qj7kZcv7)

October 27, 2020

Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k5\_numbers : \iota$  be given. Let  $v2\_struct\_0 : \iota \Rightarrow o$  be given. Let  $v2\_midsp\_1 : \iota \Rightarrow o$  be given. Let  $l1\_midsp\_3 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k2\_nat\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $np\_2 : \iota$  be given. Let  $v4\_midsp\_2 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $l1\_midsp\_2 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $u1\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $u1\_midsp\_2 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $m2\_finseq\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k4\_finseq\_2 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $np\_1 : \iota$  be given. Let  $k2\_finseq\_1 : \iota \Rightarrow \iota$  be given. Let  $k1\_funct\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_midsp\_3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k7\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k4\_finseq\_1 : \iota \Rightarrow \iota$  be given. Let  $k1\_tarski : \iota \Rightarrow \iota$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  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  $k1\_numbers : \iota$  be given. Let  $k4\_ordinal1 : \iota$  be given. Let  $v3\_ordinal1 : \iota \Rightarrow o$  be given. Let  $l1\_struct\_0 : \iota \Rightarrow o$  be given. Let  $l1\_midsp\_1 : \iota \Rightarrow o$  be given. Let  $l2\_algstr\_0 : \iota \Rightarrow o$  be given. Let  $l2\_struct\_0 : \iota \Rightarrow o$  be given. Let  $l1\_algstr\_0 : \iota \Rightarrow o$  be given. Let  $v7\_ordinal1 : \iota \Rightarrow o$  be given. Assume the following.

$$\forall X0.\forall X1.\forall X2.\neg(X0 \in X1) \wedge ((m1\_subset\_1 X1 (k1\_zfmisc\_1 X2)) \wedge (v1\_xboole\_0 X2)) \quad (1)$$

Assume the following.

$$\forall X0.\forall X1.(m1\_subset\_1 X0 X1) \Rightarrow ((v1\_xboole\_0 X1) \vee (X0 \in X1)) \quad (2)$$

Assume the following.

$$((v2\_xxreal\_0 np\_2) \wedge (m2\_subset\_1 np\_2 k1\_numbers k5\_numbers)) \wedge ((m1\_subset\_1 np\_2 k5\_numbers) \wedge (m1\_subset\_1 np\_2 k1\_numbers)) \quad (3)$$

Assume the following.

$$((v2\_xxreal\_0 np\_1) \wedge (m2\_subset\_1 np\_1 k1\_numbers k5\_numbers)) \wedge ((m1\_subset\_1 np\_1 k5\_numbers) \wedge (m1\_subset\_1 np\_1 k1\_numbers)) \quad (4)$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1\_xboole\_0 X0)\wedge((\neg v1\_xboole\_0 X1)\wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 X0))))\Rightarrow(\forall X2.(m2\_subset\_1 X2 X0 X1)\Leftrightarrow(m1\_subset\_1 X2 X1)) \quad (5)$$

Assume the following.

$$k5\_numbers = k4\_ordinal1 \quad (6)$$

Assume the following.

$$\begin{aligned} &\forall X0.(m1\_subset\_1 X0 k5\_numbers)\Rightarrow(\forall X1.(m1\_subset\_1 \\ &X1 k5\_numbers)\Rightarrow(\forall X2.(\neg v1\_xboole\_0 X2)\Rightarrow(\forall X3.(m1\_subset\_1 \\ &X3 X2)\Rightarrow(\forall X4.(m2\_finseq\_2 X4 X2 (k4\_finseq\_2 X0 X2))\Rightarrow(\forall X5. \\ &(m1\_subset\_1 X5 k5\_numbers)\Rightarrow((X5 \in k7\_subset\_1 k5\_numbers (k4\_finseq\_1 \\ &X4) (k1\_tarski X1))\Rightarrow(k1\_funct\_1 (k1\_midsp\_3 X2 X0 X4 X1 X3) X5 = k1\_funct\_1 \\ &X4 X5)))))) \end{aligned} \quad (7)$$

Assume the following.

$$\begin{aligned} &\forall X0.(m1\_subset\_1 X0 k5\_numbers)\Rightarrow(\forall X1.(m1\_subset\_1 \\ &X1 k5\_numbers)\Rightarrow(\forall X2.(\neg v1\_xboole\_0 X2)\Rightarrow(\forall X3.(m1\_subset\_1 \\ &X3 X2)\Rightarrow(\forall X4.(m2\_finseq\_2 X4 X2 (k4\_finseq\_2 X0 X2))\Rightarrow((X1 \in \\ &k2\_finseq\_1 X0)\Rightarrow(k1\_funct\_1 (k1\_midsp\_3 X2 X0 X4 X1 X3) X1 = X3)))))) \end{aligned} \quad (8)$$

Assume the following.

$$(\neg v1\_xboole\_0 k4\_ordinal1)\wedge(v3\_ordinal1 k4\_ordinal1) \quad (9)$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0 X0)\wedge(l1\_struct\_0 X0))\Rightarrow(\neg v1\_xboole\_0 (u1\_struct\_0 X0)) \quad (10)$$

Assume the following.

$$\begin{aligned} &\forall X0.\forall X1.(((\neg v2\_struct\_0 X0)\wedge(l1\_midsp\_1 X0))\wedge \\ &(l1\_midsp\_2 X1 X0))\Rightarrow((\neg v2\_struct\_0 (u1\_midsp\_2 X0 X1))\wedge(l2\_algstr\_0 \\ &(u1\_midsp\_2 X0 X1))) \end{aligned} \quad (11)$$

Assume the following.

$$\forall X0.(l2\_struct\_0 X0)\Rightarrow(l1\_struct\_0 X0) \quad (12)$$

Assume the following.

$$\forall X0.(l2\_algstr\_0 X0)\Rightarrow((l2\_struct\_0 X0)\wedge(l1\_algstr\_0 X0)) \quad (13)$$

Assume the following.

$$\forall X0.(m1\_subset\_1 X0 k5\_numbers) \Rightarrow (\forall X1.(l1\_midsp\_3 X1 X0) \Rightarrow (l1\_midsp\_1 X1)) \quad (14)$$

Assume the following.

$$m1\_subset\_1 k5\_numbers (k1\_zfmisc\_1 k1\_numbers) \quad (15)$$

Assume the following.

$$\forall X0.\forall X1.((m1\_subset\_1 X0 k5\_numbers) \wedge (v7\_ordinal1 X1)) \Rightarrow (m2\_subset\_1 (k2\_nat\_1 X0 X1) k1\_numbers k5\_numbers) \quad (16)$$

Assume the following.

$$\forall X0.\forall X1.((m1\_subset\_1 X0 k5\_numbers) \wedge (v7\_ordinal1 X1)) \Rightarrow (k2\_nat\_1 X0 X1 = k2\_nat\_1 X1 X0) \quad (17)$$

Assume the following.

$$\forall X0.(m1\_subset\_1 X0 k4\_ordinal1) \Rightarrow (v7\_ordinal1 X0) \quad (18)$$

**Theorem 1**

$$\begin{aligned} & \forall X0.(m1\_subset\_1 X0 k5\_numbers) \Rightarrow (\forall X1.(m1\_subset\_1 X1 k5\_numbers) \Rightarrow (\forall X2.((\neg v2\_struct\_0 X2) \wedge ((v2\_midsp\_1 X2) \wedge (l1\_midsp\_3 X2 (k2\_nat\_1 X1 np\_2)))) \Rightarrow (\forall X3.((v4\_midsp\_2 X3 X2) \wedge (l1\_midsp\_2 X3 X2)) \Rightarrow (\forall X4.(m1\_subset\_1 X4 (u1\_struct\_0 (u1\_midsp\_2 X2 X3))) \Rightarrow (\forall X5.(m2\_finseq\_2 X5 (u1\_struct\_0 (u1\_midsp\_2 X2 X3)) (k4\_finseq\_2 (k2\_nat\_1 X1 np\_1) (u1\_struct\_0 (u1\_midsp\_2 X2 X3)))) \Rightarrow ((X0 \in k2\_finseq\_1 (k2\_nat\_1 X1 np\_1)) \Rightarrow ((k1\_funct\_1 (k1\_midsp\_3 (u1\_struct\_0 (u1\_midsp\_2 X2 X3)) (k2\_nat\_1 X1 np\_1) X5 X0 X4) X0 = X4) \wedge (\forall X6.(m1\_subset\_1 X6 k5\_numbers) \Rightarrow ((X6 \in k7\_subset\_1 k5\_numbers (k4\_finseq\_1 X5) (k1\_tarski X0)) \Rightarrow (k1\_funct\_1 (k1\_midsp\_3 (u1\_struct\_0 (u1\_midsp\_2 X2 X3)) (k2\_nat\_1 X1 np\_1) X5 X0 X4) X6 = k1\_funct\_1 X5 X6)))))))))) \end{aligned}$$