

## t52\_flang\_2

(TMJvCxMwQjHXH2ycAFKsVBDvVBNyMGHgkLM)

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Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $k8\_afinsq\_1 : \iota \Rightarrow \iota$  be given. Let  $v7\_ordinal1 : \iota \Rightarrow o$  be given. Let  $k1\_flang\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_tarski : \iota \Rightarrow \iota$  be given. Let  $k2\_flang\_1 : \iota \Rightarrow \iota$  be given. Let  $v1\_xreal\_0 : \iota \Rightarrow o$  be given. Let  $r1\_xxreal\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $v2\_xxreal\_0 : \iota \Rightarrow o$  be given. Let  $v3\_xxreal\_0 : \iota \Rightarrow o$  be given. Let  $k1\_xboole\_0 : \iota$  be given. Let  $k6\_numbers : \iota$  be given. Let  $k7\_flang\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k3\_catalan2 : \iota \Rightarrow \iota$  be given. Let  $k4\_flang\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $np\_0 : \iota$  be given. Let  $v1\_xxreal\_0 : \iota \Rightarrow o$  be given. Let  $k4\_afinsq\_1 : \iota \Rightarrow \iota$  be given. Let  $v1\_xcmplx\_0 : \iota \Rightarrow o$  be given. Let  $v1\_relat\_1 : \iota \Rightarrow o$  be given. Let  $v5\_relat\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v5\_ordinal1 : \iota \Rightarrow o$  be given. Let  $v1\_funct\_1 : \iota \Rightarrow o$  be given. Let  $v1\_finset\_1 : \iota \Rightarrow o$  be given. Assume the following.

$$\forall X0.(v1\_xreal\_0 X0) \Rightarrow (\forall X1.(v1\_xreal\_0 X1) \Rightarrow ((r1\_xxreal\_0 X0 X1) \Rightarrow ((v1\_xboole\_0 X0) \vee ((v2\_xxreal\_0 X1) \vee (v3\_xxreal\_0 X0)))))) \quad (1)$$

Assume the following.

$$\forall X0.(v1\_xboole\_0 X0) \Rightarrow (X0 = k1\_xboole\_0) \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.(m1\_subset\_1 X2 (k1\_zfmisc\_1 \\ & (k8\_afinsq\_1 X0))) \Rightarrow (\forall X3.(v7\_ordinal1 X3) \Rightarrow (\forall X4. \\ & (v7\_ordinal1 X4) \Rightarrow ((k1\_flang\_2 X0 X2 X3 X4 = k1\_tarski X1) \Rightarrow ((r1\_xxreal\_0 \\ & X3 k6\_numbers) \vee (\forall X5.(v7\_ordinal1 X5) \Rightarrow (((r1\_xxreal\_0 \\ & X3 X5) \wedge (r1\_xxreal\_0 X5 X4)) \Rightarrow (k7\_flang\_1 X0 X2 X5 = k1\_tarski X1))))))) \end{aligned} \quad (3)$$

Assume the following.

$$\forall X0.\forall X1.(m1\_subset\_1 X0 X1) \Rightarrow ((v1\_xboole\_0 X1) \vee (X0 \in X1)) \quad (4)$$

Assume the following.

$$\forall X0.\forall X1.(m1\_subset\_1 X1 (k1\_zfmisc\_1 (k3\_catalan2 X0)))\Rightarrow(k7\_flang\_1 X0 X1 k6\_numbers = k4\_flang\_1 X0 (k2\_flang\_1 X0)) \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.(m1\_subset\_1 X1 (k1\_zfmisc\_1 (k8\_afinsq\_1 X0)))\Rightarrow(\forall X2.(v7\_ordinal1 X2)\Rightarrow(\forall X3.(v7\_ordinal1 X3)\Rightarrow((k1\_flang\_2 X0 X1 X2 X3 = k1\_xboole\_0)\Leftrightarrow(\neg(r1\_xxreal\_0 X2 X3)\wedge(\neg(\neg r1\_xxreal\_0 X2 k6\_numbers)\wedge(X1 = k1\_xboole\_0)))))) \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1\_subset\_1 X2 (k1\_zfmisc\_1 (k8\_afinsq\_1 X0)))\Rightarrow(\forall X3.(v7\_ordinal1 X3)\Rightarrow(\forall X4.(v7\_ordinal1 X4)\Rightarrow((X1 \in k1\_flang\_2 X0 X2 X3 X4)\Leftrightarrow(\exists X5.(v7\_ordinal1 X5)\wedge((r1\_xxreal\_0 X3 X5)\wedge(r1\_xxreal\_0 X5 X4)\wedge(X1 \in k7\_flang\_1 X0 X2 X5)))))) \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1\_subset\_1 X2 (k1\_zfmisc\_1 (k8\_afinsq\_1 X1)))\Rightarrow(\forall X3.(v7\_ordinal1 X3)\Rightarrow(\forall X4.(v7\_ordinal1 X4)\Rightarrow(((k7\_flang\_1 X1 X2 X3 = k1\_tarski X0)\wedge(k7\_flang\_1 X1 X2 X4 = k1\_tarski X0))\Rightarrow((X3 = X4)\vee(X0 = k2\_flang\_1 X1)))))) \quad (8)$$

Assume the following.

$$v1\_xboole\_0 np\_0 \quad (9)$$

Assume the following.

$$r1\_xxreal\_0 np\_0 np\_0 \quad (10)$$

Assume the following.

$$\forall X0.\forall X1.((v1\_xxreal\_0 X0)\wedge(v1\_xxreal\_0 X1))\Rightarrow(r1\_xxreal\_0 X0 X0) \quad (11)$$

Assume the following.

$$k6\_numbers = k1\_xboole\_0 \quad (12)$$

Assume the following.

$$\forall X0.\forall X1.(m1\_subset\_1 X1 (k3\_catalan2 X0))\Rightarrow(k4\_flang\_1 X0 X1 = k1\_tarski X1) \quad (13)$$

Assume the following.

$$\forall X0.k3\_catalan2 X0 = k8\_afinsq\_1 X0 \quad (14)$$

Assume the following.

$$\forall X0. k2\_flang\_1 X0 = k4\_afinsq\_1 X0 \quad (15)$$

Assume the following.

$$\exists X0. (v1\_xboole\_0 X0) \wedge ((v1\_xcmplx\_0 X0) \wedge ((v1\_xxreal\_0 X0) \wedge (v1\_xreal\_0 X0))) \quad (16)$$

Assume the following.

$$\forall X0. (v1\_relat\_1 (k4\_afinsq\_1 X0)) \wedge ((v5\_relat\_1 (k4\_afinsq\_1 X0) X0) \wedge ((v5\_ordinal1 (k4\_afinsq\_1 X0)) \wedge ((v1\_funct\_1 (k4\_afinsq\_1 X0)) \wedge ((v1\_xboole\_0 (k4\_afinsq\_1 X0)) \wedge (v1\_finset\_1 (k4\_afinsq\_1 X0)))))) \quad (17)$$

Assume the following.

$$\forall X0. \neg v1\_xboole\_0 (k1\_tarski X0) \quad (18)$$

Assume the following.

$$\forall X0. \exists X1. m1\_subset\_1 X1 X0 \quad (19)$$

Assume the following.

$$\forall X0. m1\_subset\_1 (k2\_flang\_1 X0) (k3\_catalan2 X0) \quad (20)$$

Assume the following.

$$\forall X0. \forall X1. (X1 = k1\_tarski X0) \Leftrightarrow (\forall X2. (X2 \in X1) \Leftrightarrow (X2 = X0)) \quad (21)$$

Assume the following.

$$\forall X0. ((v1\_xxreal\_0 X0) \wedge (v2\_xxreal\_0 X0)) \Rightarrow ((\neg v1\_xboole\_0 X0) \wedge ((v1\_xxreal\_0 X0) \wedge (\neg v3\_xxreal\_0 X0))) \quad (22)$$

Assume the following.

$$\forall X0. (v7\_ordinal1 X0) \Rightarrow ((v7\_ordinal1 X0) \wedge (\neg v3\_xxreal\_0 X0)) \quad (23)$$

Assume the following.

$$\forall X0. (v7\_ordinal1 X0) \Rightarrow (v1\_xxreal\_0 X0) \quad (24)$$

Assume the following.

$$\forall X0. (v7\_ordinal1 X0) \Rightarrow (v1\_xreal\_0 X0) \quad (25)$$

**Theorem 1**

$$\forall X0. \forall X1. \forall X2. (m1\_subset\_1 X2 (k1\_zfmisc\_1 (k8\_afinsq\_1 X1))) \Rightarrow (\forall X3. (v7\_ordinal1 X3) \Rightarrow (\forall X4. (v7\_ordinal1 X4) \Rightarrow ((k1\_flang\_2 X1 X2 X3 X4 = k1\_tarski X0) \Rightarrow ((X3 = X4) \vee (X0 = k2\_flang\_1 X1))))))$$