

## l32\_fib\_num4

(TMYmDm3STw6HLKPLjhJ8Hbr7d7puifuiFa9)

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Let  $r1\_xxreal\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k6\_numbers : \iota$  be given. Let  $k13\_complex1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k6\_xcmplx\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k7\_square\_1 : \iota \Rightarrow \iota$  be given. Let  $np\_5 : \iota$  be given. Let  $np\_3 : \iota$  be given. Let  $np\_2 : \iota$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $k1\_xboole\_0 : \iota$  be given. Let  $v1\_xreal\_0 : \iota \Rightarrow o$  be given. Let  $v3\_xxreal\_0 : \iota \Rightarrow o$  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  $k5\_numbers : \iota$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $np\_0 : \iota$  be given. Let  $k4\_xcmplx\_0 : \iota \Rightarrow \iota$  be given. Let  $v1\_xcmplx\_0 : \iota \Rightarrow o$  be given. Let  $k7\_xcmplx\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_xxreal\_0 : \iota \Rightarrow o$  be given. Assume the following.

$$\forall X0.(v1\_xboole\_0 X0) \Rightarrow (X0 = k1\_xboole\_0) \quad (1)$$

Assume the following.

$$\forall X0.(v1\_xreal\_0 X0) \Rightarrow (\forall X1.(v1\_xreal\_0 X1) \Rightarrow ((r1\_xxreal\_0 X0 X1) \Rightarrow ((v1\_xboole\_0 X1) \vee ((v3\_xxreal\_0 X0) \vee (v2\_xxreal\_0 X1)))))) \quad (2)$$

Assume the following.

$$\forall X0.(v1\_xreal\_0 X0) \Rightarrow (\forall X1.(v1\_xreal\_0 X1) \Rightarrow (((r1\_xxreal\_0 X0 X1) \wedge (v2\_xxreal\_0 X0)) \Rightarrow (v2\_xxreal\_0 X1))) \quad (3)$$

Assume the following.

$$((v2\_xxreal\_0 np\_5) \wedge (m2\_subset\_1 np\_5 k1\_numbers k5\_numbers)) \wedge ((m1\_subset\_1 np\_5 k5\_numbers) \wedge (m1\_subset\_1 np\_5 k1\_numbers)) \quad (4)$$

Assume the following.

$$((v2\_xxreal\_0 np\_3) \wedge (m2\_subset\_1 np\_3 k1\_numbers k5\_numbers)) \wedge ((m1\_subset\_1 np\_3 k5\_numbers) \wedge (m1\_subset\_1 np\_3 k1\_numbers)) \quad (5)$$

Assume the following.

$$((v2\_xxreal\_0 np\_2) \wedge (m2\_subset\_1 np\_2 k1\_numbers k5\_numbers)) \wedge ((m1\_subset\_1 np\_2 k5\_numbers) \wedge (m1\_subset\_1 np\_2 k1\_numbers)) \quad (6)$$

Assume the following.

$$\neg v1\_xboole\_0 \ np\_2 \tag{7}$$

Assume the following.

$$(m2\_subset\_1 \ np\_0 \ k1\_numbers \ k5\_numbers) \wedge ((m1\_subset\_1 \ np\_0 \ k5\_numbers) \wedge (m1\_subset\_1 \ np\_0 \ k1\_numbers)) \tag{8}$$

Assume the following.

$$v1\_xboole\_0 \ np\_0 \tag{9}$$

Assume the following.

$$k4\_xcmplx\_0 \ np\_0 = np\_0 \tag{10}$$

Assume the following.

$$k6\_xcmplx\_0 \ np\_3 \ np\_3 = np\_0 \tag{11}$$

Assume the following.

$$k6\_numbers = k1\_xboole\_0 \tag{12}$$

Assume the following.

$$\forall X0. \forall X1. ((v1\_xcmplx\_0 \ X0) \wedge (v1\_xcmplx\_0 \ X1)) \Rightarrow (k13\_complex1 \ X0 \ X1 = k7\_xcmplx\_0 \ X0 \ X1) \tag{13}$$

Assume the following.

$$\neg r1\_xreal\_0 \ (k6\_xcmplx\_0 \ np\_3 \ np\_3) \ (k6\_xcmplx\_0 \ (k7\_square\_1 \ np\_5) \ np\_3) \tag{14}$$

Assume the following.

$$\forall X0. \forall X1. (((\neg v1\_xboole\_0 \ X0) \wedge (v1\_xcmplx\_0 \ X0)) \wedge ((\neg v1\_xboole\_0 \ X1) \wedge (v1\_xcmplx\_0 \ X1))) \Rightarrow (\neg v1\_xboole\_0 \ (k7\_xcmplx\_0 \ X0 \ X1)) \tag{15}$$

Assume the following.

$$\forall X0. \forall X1. ((v1\_xreal\_0 \ X0) \wedge (v1\_xreal\_0 \ X1)) \Rightarrow (v1\_xreal\_0 \ (k7\_xcmplx\_0 \ X0 \ X1)) \tag{16}$$

Assume the following.

$$\forall X0. \forall X1. ((v1\_xreal\_0 \ X0) \wedge (v1\_xreal\_0 \ X1)) \Rightarrow (v1\_xreal\_0 \ (k6\_xcmplx\_0 \ X0 \ X1)) \tag{17}$$

Assume the following.

$$\forall X0. \forall X1. (((\neg v3\_xreal\_0 \ X0) \wedge (v1\_xreal\_0 \ X0)) \wedge ((\neg v2\_xreal\_0 \ X1) \wedge (v1\_xreal\_0 \ X1))) \Rightarrow (\neg v2\_xreal\_0 \ (k7\_xcmplx\_0 \ X1 \ X0)) \tag{18}$$

Assume the following.

$$\forall X0.((\neg v3\_xxreal\_0 X0) \wedge (v1\_xreal\_0 X0)) \Rightarrow ((v1\_xcmplx\_0 (k4\_xcmplx\_0 X0)) \wedge (\neg v2\_xxreal\_0 (k4\_xcmplx\_0 X0))) \quad (19)$$

Assume the following.

$$\forall X0.(m1\_subset\_1 X0 k1\_numbers) \Rightarrow (m1\_subset\_1 (k7\_square\_1 X0) k1\_numbers) \quad (20)$$

Assume the following.

$$\forall X0.\forall X1.((v1\_xxreal\_0 X0) \wedge (v1\_xxreal\_0 X1)) \Rightarrow (r1\_xxreal\_0 X0 X1) \vee (r1\_xxreal\_0 X1 X0) \quad (21)$$

Assume the following.

$$\forall X0.(v1\_xreal\_0 X0) \Rightarrow (v1\_xxreal\_0 X0) \quad (22)$$

Assume the following.

$$\forall X0.(v1\_xreal\_0 X0) \Rightarrow (v1\_xcmplx\_0 X0) \quad (23)$$

Assume the following.

$$\forall X0.(m1\_subset\_1 X0 k5\_numbers) \Rightarrow (\neg v3\_xxreal\_0 X0) \quad (24)$$

Assume the following.

$$\forall X0.(m1\_subset\_1 X0 k1\_numbers) \Rightarrow (v1\_xreal\_0 X0) \quad (25)$$

**Theorem 1**

$$\neg r1\_xxreal\_0 k6\_numbers (k13\_complex1 (k6\_xcmplx\_0 (k7\_square\_1 np\_5) np\_3) np\_2)$$