

t2\_pepin (TM-  
FYXc2fYrPpX3K6QEGh2MZfK5XHbWL1NnC)

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Let  $v7\_ordinal1 : \iota \Rightarrow o$  be given. Let  $v1\_int\_2 : \iota \Rightarrow o$  be given. Let  $r1\_int\_2 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k6\_nat\_d : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k3\_int\_2 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_int\_1 : \iota \Rightarrow o$  be given. Let  $r1\_xxreal\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $np\_1 : \iota$  be given. Let  $r1\_int\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Assume the following.

$$\forall X0.\forall X1.((v7\_ordinal1 X0) \wedge (v7\_ordinal1 X1)) \Rightarrow (k6\_nat\_d X0 X1 = k3\_int\_2 X0 X1) \quad (1)$$

Assume the following.

$$\forall X0.\forall X1.((v1\_int\_1 X0) \wedge (v1\_int\_1 X1)) \Rightarrow (v7\_ordinal1 (k3\_int\_2 X0 X1)) \quad (2)$$

Assume the following.

$$\forall X0.(v7\_ordinal1 X0) \Rightarrow ((v1\_int\_2 X0) \Leftrightarrow ((\neg r1\_xxreal\_0 X0 np\_1) \wedge (\forall X1.(v7\_ordinal1 X1) \Rightarrow (\neg (r1\_int\_1 X1 X0) \wedge ((X1 \neq np\_1) \wedge (X1 \neq X0)))))) \quad (3)$$

Assume the following.

$$\forall X0.(v1\_int\_1 X0) \Rightarrow (\forall X1.(v1\_int\_1 X1) \Rightarrow ((r1\_int\_2 X0 X1) \Leftrightarrow (k3\_int\_2 X0 X1 = np\_1))) \quad (4)$$

Assume the following.

$$\forall X0.(v1\_int\_1 X0) \Rightarrow (\forall X1.(v1\_int\_1 X1) \Rightarrow (\forall X2.(v7\_ordinal1 X2) \Rightarrow ((X2 = k3\_int\_2 X0 X1) \Leftrightarrow ((r1\_int\_1 X2 X0) \wedge ((r1\_int\_1 X2 X1) \wedge (\forall X3.(v1\_int\_1 X3) \Rightarrow (((r1\_int\_1 X3 X0) \wedge (r1\_int\_1 X3 X1)) \Rightarrow (r1\_int\_1 X3 X2)))))))) \quad (5)$$

Assume the following.

$$\forall X0.(v7\_ordinal1 X0) \Rightarrow (v1\_int\_1 X0) \quad (6)$$

**Theorem 1**

$$\forall X0.(v7\_ordinal1 X0) \Rightarrow (\forall X1.(v7\_ordinal1 X1) \Rightarrow (\neg (v1\_int\_2 X1) \wedge ((\neg r1\_int\_2 X0 X1) \wedge (k6\_nat\_d X0 X1 \neq X1))))$$