

## t52\_ordinal3

(TMYo7hb7G43qbywzv8Gc62EAkEyWDMhFnKh)

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Let  $v3\_ordinal1 : \iota \Rightarrow o$  be given. Let  $k5\_ordinal3 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k10\_ordinal2 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $r1\_ordinal1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_xboole\_0 : \iota$  be given. Assume the following.

$$\forall X0.(v3\_ordinal1 X0) \Rightarrow (\forall X1.(v3\_ordinal1 X1) \Rightarrow ((r1\_ordinal1 X0 (k10\_ordinal2 X0 X1)) \wedge (r1\_ordinal1 X1 (k10\_ordinal2 X0 X1)))) \tag{1}$$

Assume the following.

$$\forall X0.\forall X1.((v3\_ordinal1 X0) \wedge (v3\_ordinal1 X1)) \Rightarrow (v3\_ordinal1 (k10\_ordinal2 X0 X1)) \tag{2}$$

Assume the following.

$$\begin{aligned} & \forall X0.(v3\_ordinal1 X0) \Rightarrow (\forall X1.(v3\_ordinal1 X1) \Rightarrow (\forall X2. \\ & (v3\_ordinal1 X2) \Rightarrow (((r1\_ordinal1 X1 X0) \Rightarrow ((X2 = k5\_ordinal3 X0 X1) \Leftrightarrow \\ & (X0 = k10\_ordinal2 X1 X2))) \wedge ((\neg r1\_ordinal1 X1 X0) \Rightarrow ((X2 = k5\_ordinal3 \\ & X0 X1) \Leftrightarrow (X2 = k1\_xboole\_0)))))) \end{aligned} \tag{3}$$

### Theorem 1

$$\forall X0.(v3\_ordinal1 X0) \Rightarrow (\forall X1.(v3\_ordinal1 X1) \Rightarrow (k5\_ordinal3 (k10\_ordinal2 X0 X1) X0 = X1))$$