

# l5\_topgen\_2 (TMdRbAthuuNuWddFD- SzT8agzEM6NFQw1SHz)

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Let  $v2\_struct\_0 : \iota \Rightarrow o$  be given. Let  $l1\_pre\_topc : \iota \Rightarrow o$  be given. Let  $v1\_card\_1 : \iota \Rightarrow o$  be given. Let  $k3\_tarSKI : \iota \Rightarrow \iota$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $u1\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $k1\_topgen\_2 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $r1\_ordinal1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $r1\_tarSKI : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v3\_ordinal1 : \iota \Rightarrow o$  be given. Assume the following.

$$\forall X0. \forall X1. (\forall X2. (X2 \in X0) \Rightarrow (r1\_tarSKI X2 X1)) \Rightarrow (r1\_tarSKI (k3\_tarSKI X0) X1) \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. (X0 \in X1) \Rightarrow (r1\_tarSKI X0 (k3\_tarSKI X1)) \quad (2)$$

Assume the following.

$$\forall X0. (\forall X1. (X1 \in X0) \Rightarrow (v1\_card\_1 X1)) \Rightarrow (v1\_card\_1 (k3\_tarSKI X0)) \quad (3)$$

Assume the following.

$$\forall X0. \forall X1. ((v3\_ordinal1 X0) \wedge (v3\_ordinal1 X1)) \Rightarrow (r1\_ordinal1 X0 X1) \Leftrightarrow (r1\_tarSKI X0 X1) \quad (4)$$

Assume the following.

$$\forall X0. \forall X1. (((\neg v2\_struct\_0 X0) \wedge (l1\_pre\_topc X0)) \wedge (m1\_subset\_1 X1 (u1\_struct\_0 X0))) \Rightarrow (v1\_card\_1 (k1\_topgen\_2 X0 X1)) \quad (5)$$

Assume the following.

$$\forall X0. (v1\_card\_1 X0) \Rightarrow (v3\_ordinal1 X0) \quad (6)$$

**Theorem 1**

$$\begin{aligned} & \forall X0.((\neg v2\_struct\_0 X0) \wedge (l1\_pre\_topc X0)) \Rightarrow ((v1\_card\_1 \\ & (k3\_tarski (ReplSep (toset (\lambda X1 : \iota.m1\_subset\_1 X1 (u1\_struct\_0 \\ & X0))) (\lambda X1 : \iota.True) (\lambda X1 : \iota.k1\_topgen\_2 X0 X1)))) \wedge ( \\ & \forall X1.(v1\_card\_1 X1) \Rightarrow ((X1 = k3\_tarski (ReplSep (toset (\lambda X2 : \\ & \iota.m1\_subset\_1 X2 (u1\_struct\_0 X0))) (\lambda X2 : \iota.True) (\lambda X2 : \\ & \iota.k1\_topgen\_2 X0 X2))) \Rightarrow ((\forall X2.(m1\_subset\_1 X2 (u1\_struct\_0 \\ & X0)) \Rightarrow (r1\_ordinal1 (k1\_topgen\_2 X0 X2) X1)) \wedge (\forall X2.(v1\_card\_1 \\ & X2) \Rightarrow ((\forall X3.(m1\_subset\_1 X3 (u1\_struct\_0 X0)) \Rightarrow (r1\_ordinal1 \\ & (k1\_topgen\_2 X0 X3) X2)) \Rightarrow (r1\_ordinal1 X1 X2)))))) \end{aligned}$$