

# 170\_hilbert1 (TMUkR- Lea6kTyEvvvgMw1kGBTpPrqEacKvQTT)

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Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_hilbert1 : \iota$  be given. Let  $k3\_hilbert1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k4\_hilbert1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k6\_hilbert1 : \iota$  be given. Assume the following.

$$\begin{aligned} & \forall X0.(m1\_subset\_1 X0 k1\_hilbert1) \Rightarrow (\forall X1.(m1\_subset\_1 \\ & X1 k1\_hilbert1) \Rightarrow (\forall X2.(m1\_subset\_1 X2 k1\_hilbert1) \Rightarrow (( \\ & (k3\_hilbert1 X0 X1 \in k6\_hilbert1) \wedge (k3\_hilbert1 X1 X2 \in k6\_hilbert1)) \Rightarrow \\ & (k3\_hilbert1 X0 X2 \in k6\_hilbert1)))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0.(m1\_subset\_1 X0 k1\_hilbert1) \Rightarrow (\forall X1.(m1\_subset\_1 \\ & X1 k1\_hilbert1) \Rightarrow (\forall X2.(m1\_subset\_1 X2 k1\_hilbert1) \Rightarrow (k3\_hilbert1 \\ & (k4\_hilbert1 (k4\_hilbert1 (k4\_hilbert1 X0 X1) X2) X1) (k4\_hilbert1 \\ & (k4\_hilbert1 X0 X2) X1) \in k6\_hilbert1))) \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned} & \forall X0.(m1\_subset\_1 X0 k1\_hilbert1) \Rightarrow (\forall X1.(m1\_subset\_1 \\ & X1 k1\_hilbert1) \Rightarrow (\forall X2.(m1\_subset\_1 X2 k1\_hilbert1) \Rightarrow (k3\_hilbert1 \\ & (k4\_hilbert1 (k4\_hilbert1 X0 X1) X2) (k4\_hilbert1 (k4\_hilbert1 \\ & (k4\_hilbert1 X0 X1) X2) X1) \in k6\_hilbert1))) \end{aligned} \tag{3}$$

Assume the following.

$$\forall X0. \forall X1. ((m1\_subset\_1 X0 k1\_hilbert1) \wedge (m1\_subset\_1 X1 k1\_hilbert1)) \Rightarrow (m1\_subset\_1 (k4\_hilbert1 X0 X1) k1\_hilbert1) \tag{4}$$

**Theorem 1**

$$\begin{aligned} & \forall X0.(m1\_subset\_1 X0 k1\_hilbert1) \Rightarrow (\forall X1.(m1\_subset\_1 \\ & X1 k1\_hilbert1) \Rightarrow (\forall X2.(m1\_subset\_1 X2 k1\_hilbert1) \Rightarrow (k3\_hilbert1 \\ & (k4\_hilbert1 (k4\_hilbert1 X0 X1) X2) (k4\_hilbert1 (k4\_hilbert1 \\ & X0 X2) X1) \in k6\_hilbert1))) \end{aligned}$$