

# t37\_xxreal\_3 (TMYAiTjZoKTTSumXeGek- MdZQTya1eaGZ12R)

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Let  $v1\_xxreal\_0 : \iota \Rightarrow o$  be given. Let  $r1\_xxreal\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k3\_xxreal\_3 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_xxreal\_3 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_xxreal\_3 : \iota \Rightarrow \iota$  be given. Assume the following.

$$\begin{aligned} & \forall X0.(v1\_xxreal\_0 X0) \Rightarrow (\forall X1.(v1\_xxreal\_0 X1) \Rightarrow (\forall X2. \\ & (v1\_xxreal\_0 X2) \Rightarrow (\forall X3.(v1\_xxreal\_0 X3) \Rightarrow (((r1\_xxreal\_0 \\ & X0 X1) \wedge (r1\_xxreal\_0 X2 X3)) \Rightarrow (r1\_xxreal\_0 (k1\_xxreal\_3 X0 X2) ( \\ & k1\_xxreal\_3 X1 X3)))))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0.(v1\_xxreal\_0 X0) \Rightarrow (\forall X1.(v1\_xxreal\_0 X1) \Rightarrow (( \\ & r1\_xxreal\_0 X0 X1) \Rightarrow (r1\_xxreal\_0 (k2\_xxreal\_3 X1) (k2\_xxreal\_3 \\ & X0)))) \end{aligned} \quad (2)$$

Assume the following.

$$\forall X0.(v1\_xxreal\_0 X0) \Rightarrow (v1\_xxreal\_0 (k2\_xxreal\_3 X0)) \quad (3)$$

Assume the following.

$$\forall X0.(v1\_xxreal\_0 X0) \Rightarrow (\forall X1.(v1\_xxreal\_0 X1) \Rightarrow (k3\_xxreal\_3 X0 X1 = k1\_xxreal\_3 X0 (k2\_xxreal\_3 X1))) \quad (4)$$

**Theorem 1**

$$\begin{aligned} & \forall X0.(v1\_xxreal\_0 X0) \Rightarrow (\forall X1.(v1\_xxreal\_0 X1) \Rightarrow (\forall X2. \\ & (v1\_xxreal\_0 X2) \Rightarrow (\forall X3.(v1\_xxreal\_0 X3) \Rightarrow (((r1\_xxreal\_0 \\ & X0 X1) \wedge (r1\_xxreal\_0 X2 X3)) \Rightarrow (r1\_xxreal\_0 (k3\_xxreal\_3 X0 X3) ( \\ & k3\_xxreal\_3 X1 X2)))))) \end{aligned}$$