

t13\_nat\_lat  
(TMEwy7SeJW2yPYzNieCUJ1YBa3JDF7ecnHo)

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Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $u1\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $k10\_nat\_lat : \iota$  be given. Let  $k1\_lattices : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k5\_nat\_d : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k11\_nat\_lat : \iota \Rightarrow \iota$  be given. Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((m1\_subset\_1 X0 (u1\_struct\_0 k10\_nat\_lat)) \wedge \\ & (m1\_subset\_1 X1 (u1\_struct\_0 k10\_nat\_lat))) \Rightarrow (k1\_lattices k10\_nat\_lat \\ & X0 X1 = k5\_nat\_d X0 X1) \end{aligned} \tag{1}$$

Assume the following.

$$\forall X0. (m1\_subset\_1 X0 (u1\_struct\_0 k10\_nat\_lat)) \Rightarrow (k11\_nat\_lat X0 = X0) \tag{2}$$

**Theorem 1**

$$\begin{aligned} & \forall X0. (m1\_subset\_1 X0 (u1\_struct\_0 k10\_nat\_lat)) \Rightarrow (\forall X1. \\ & (m1\_subset\_1 X1 (u1\_struct\_0 k10\_nat\_lat)) \Rightarrow (k1\_lattices k10\_nat\_lat \\ & X0 X1 = k5\_nat\_d (k11\_nat\_lat X0) (k11\_nat\_lat X1))) \end{aligned}$$