

## l22\_topreal2

(TMQCv6GjUXXPfBXNk1qsafkxmYdq27oYV6A)

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Let  $k19\_euclid : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k6\_numbers : \iota$  be given. Let  $np\_1 : \iota$  be given. Let  $k1\_rltopsp1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k15\_euclid : \iota \Rightarrow \iota$  be given. Let  $np\_2 : \iota$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $u1\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $k17\_euclid : \iota \Rightarrow \iota$  be given. Let  $r1\_xxreal\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k18\_euclid : \iota \Rightarrow \iota$  be given. Let  $v2\_xxreal\_0 : \iota \Rightarrow o$  be given. Let  $m2\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_numbers : \iota$  be given. Let  $k5\_numbers : \iota$  be given. Let  $v1\_xxreal\_0 : \iota \Rightarrow o$  be given. Assume the following.

$$\begin{aligned}
 & (k1\_rltopsp1 (k15\_euclid np\_2) (k19\_euclid k6\_numbers k6\_numbers) \\
 & (k19\_euclid k6\_numbers np\_1) = ReplSep (toset (\lambda X0 : \iota.m1\_subset\_1 \\
 & \quad X0 (u1\_struct\_0 (k15\_euclid np\_2)))) (\lambda X0 : \iota.(k17\_euclid \\
 X0 = k6\_numbers) \wedge ((r1\_xxreal\_0 (k18\_euclid X0) np\_1) \wedge (r1\_xxreal\_0 \\
 & \quad k6\_numbers (k18\_euclid X0)))) (\lambda X0 : \iota.X0) \wedge ((k1\_rltopsp1 \\
 & \quad (k15\_euclid np\_2) (k19\_euclid k6\_numbers np\_1) (k19\_euclid \\
 np\_1 np\_1) = ReplSep (toset (\lambda X0 : \iota.m1\_subset\_1 X0 (u1\_struct\_0 \\
 & \quad (k15\_euclid np\_2)))) (\lambda X0 : \iota.(r1\_xxreal\_0 (k17\_euclid \\
 X0) np\_1) \wedge ((r1\_xxreal\_0 k6\_numbers (k17\_euclid X0)) \wedge (k18\_euclid \\
 & \quad X0 = np\_1))) (\lambda X0 : \iota.X0) \wedge ((k1\_rltopsp1 (k15\_euclid np\_2) \\
 (k19\_euclid k6\_numbers k6\_numbers) (k19\_euclid np\_1 k6\_numbers) = \\
 & \quad ReplSep (toset (\lambda X0 : \iota.m1\_subset\_1 X0 (u1\_struct\_0 (k15\_euclid \\
 np\_2)))) (\lambda X0 : \iota.(r1\_xxreal\_0 (k17\_euclid X0) np\_1) \wedge ( \\
 & \quad (r1\_xxreal\_0 k6\_numbers (k17\_euclid X0)) \wedge (k18\_euclid X0 = k6\_numbers))) \\
 & \quad (\lambda X0 : \iota.X0) \wedge (k1\_rltopsp1 (k15\_euclid np\_2) (k19\_euclid \\
 np\_1 k6\_numbers) (k19\_euclid np\_1 np\_1) = ReplSep (toset (\lambda X0 : \\
 & \quad \iota.m1\_subset\_1 X0 (u1\_struct\_0 (k15\_euclid np\_2)))) (\lambda X0 : \\
 & \quad \iota.(k17\_euclid X0 = np\_1) \wedge ((r1\_xxreal\_0 (k18\_euclid X0) np\_1) \wedge \\
 & \quad (r1\_xxreal\_0 k6\_numbers (k18\_euclid X0)))) (\lambda X0 : \iota.X0)))
 \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned}
 & ((v2\_xxreal\_0 np\_1) \wedge (m2\_subset\_1 np\_1 k1\_numbers k5\_numbers)) \wedge \\
 & ((m1\_subset\_1 np\_1 k5\_numbers) \wedge (m1\_subset\_1 np\_1 k1\_numbers))
 \end{aligned} \tag{2}$$

Assume the following.

$$r1\_xxreal\_0 np\_1 np\_1 \tag{3}$$

Assume the following.

$$k18\_euclid (k19\_euclid k6\_numbers np\_1) = np\_1 \quad (4)$$

Assume the following.

$$k17\_euclid (k19\_euclid k6\_numbers np\_1) = k6\_numbers \quad (5)$$

Assume the following.

$$m1\_subset\_1 k6\_numbers k1\_numbers \quad (6)$$

Assume the following.

$$r1\_xxreal\_0 k6\_numbers np\_1 \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.((v1\_xxreal\_0 X0)\wedge(v1\_xxreal\_0 X1))\Rightarrow(m1\_subset\_1 (k19\_euclid X0 X1) (u1\_struct\_0 (k15\_euclid np\_2))) \quad (8)$$

Assume the following.

$$\forall X0.(m1\_subset\_1 X0 k1\_numbers)\Rightarrow(v1\_xxreal\_0 X0) \quad (9)$$

**Theorem 1**

$$k19\_euclid k6\_numbers np\_1 \in k1\_rltopsp1 (k15\_euclid np\_2) (k19\_euclid k6\_numbers k6\_numbers) (k19\_euclid k6\_numbers np\_1)$$