

t65\_integra8  
(TMG1Vuwk2hgnjLqcZ3LTBFqyXHqsaxyMkna)

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Let  $v1\_funct.1 : \iota \Rightarrow o$  be given. Let  $m1\_subset.1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_zfmisc.1 : \iota \Rightarrow \iota$  be given. Let  $k2\_zfmisc.1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_numbers : \iota$  be given. Let  $v1\_xboole.0 : \iota \Rightarrow o$  be given. Let  $v2\_measure5 : \iota \Rightarrow o$  be given. Let  $k1\_rcomp.1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_real.1 : \iota \Rightarrow \iota$  be given. Let  $k10\_real.1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k7\_square.1 : \iota \Rightarrow \iota$  be given. Let  $np\_2 : \iota$  be given. Let  $k9\_xtuple.0 : \iota \Rightarrow \iota$  be given. Let  $k2\_fdiff.1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k4\_sin\_cos6 : \iota$  be given. Let  $k2\_rcomp.1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $np\_1 : \iota$  be given. Let  $k1\_seq.1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k9\_real.1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k5\_square.1 : \iota \Rightarrow \iota$  be given. Let  $v1\_fcont.1 : \iota \Rightarrow o$  be given. Let  $k2\_partfun1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_integra5 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k32\_sin\_cos : \iota$  be given. Let  $v1\_xxreal.0 : \iota \Rightarrow o$  be given. Let  $k4\_xxreal.1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $r1\_xxreal.0 : \iota \Rightarrow \iota \Rightarrow o$  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  $k5\_numbers : \iota$  be given. Let  $v1\_xreal.0 : \iota \Rightarrow o$  be given. Assume the following.

$$\begin{aligned} & \forall X0.(v1\_xxreal.0 X0) \Rightarrow (\forall X1.(v1\_xxreal.0 X1) \Rightarrow (\forall X2. \\ & (v1\_xxreal.0 X2) \Rightarrow ((X0 \in k4\_xxreal.1 X1 X2) \Leftrightarrow ((\neg r1\_xxreal.0 X0 X1) \wedge \\ & (\neg r1\_xxreal.0 X2 X0)))))) \end{aligned} \tag{1}$$

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.

$$\forall X0. \forall X1. ((v1\_xxreal.0 X0) \wedge (v1\_xxreal.0 X1)) \Rightarrow (k2\_rcomp.1 X0 X1 = k4\_xxreal.1 X0 X1) \tag{4}$$

Assume the following.

$$\forall X0.(m1\_subset.1 X0 k1\_numbers) \Rightarrow (m1\_subset.1 (k1\_real.1 X0) k1\_numbers) \tag{5}$$

Assume the following.

$$\forall X0.(v1\_xreal\_0 X0) \Rightarrow (v1\_xxreal\_0 X0) \quad (6)$$

Assume the following.

$$\forall X0.(m1\_subset\_1 X0 k1\_numbers) \Rightarrow (v1\_xreal\_0 X0) \quad (7)$$

**Theorem 1**

$$\begin{aligned} & \forall X0.((v1\_funct\_1 X0) \wedge (m1\_subset\_1 X0 (k1\_zfmisc\_1 (k2\_zfmisc\_1 \\ & \quad k1\_numbers k1\_numbers)))) \Rightarrow (\forall X1.((\neg v1\_xboole\_0 X1) \wedge ( \\ & (v2\_measure5 X1) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 k1\_numbers)))) \Rightarrow \\ & (((X1 = k1\_rcomp\_1 (k1\_real\_1 (k10\_real\_1 (k7\_square\_1 np\_2) \\ & \quad np\_2)) (k10\_real\_1 (k7\_square\_1 np\_2) np\_2)) \wedge ((k9\_xtuple\_0 \\ & (k2\_fdiff\_1 k4\_sin\_cos6 (k2\_rcomp\_1 (k1\_real\_1 np\_1) np\_1)) = \\ & \quad k9\_xtuple\_0 X0) \wedge ((\forall X2.(m1\_subset\_1 X2 k1\_numbers) \Rightarrow (( \\ & X2 \in k2\_rcomp\_1 (k1\_real\_1 np\_1) np\_1) \wedge (k1\_seq\_1 X0 X2 = k1\_real\_1 \\ & \quad (k10\_real\_1 np\_1 (k7\_square\_1 (k9\_real\_1 np\_1 (k5\_square\_1 \\ & \quad X2)))))) \wedge (v1\_fcont\_1 (k2\_partfun1 k1\_numbers k1\_numbers X0 \\ & \quad X1)))) \Rightarrow (k2\_integra5 X1 X0 = k1\_real\_1 (k10\_real\_1 k32\_sin\_cos \\ & \quad np\_2)))))) \end{aligned}$$