

t9\_irrat\_1 (TMNUQC-  
SZGi1pNHhp63QxJ4G4gz54UUccEJi)

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Let  $v1\_xreal\_0 : \iota \Rightarrow o$  be given. Let  $v1\_funct\_1 : \iota \Rightarrow o$  be given. Let  $v1\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k5\_numbers : \iota$  be given. Let  $k1\_numbers : \iota$  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  $v7\_ordinal1 : \iota \Rightarrow o$  be given. Let  $k1\_seq\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v2\_comseq\_2 : \iota \Rightarrow o$  be given. Let  $k2\_seq\_2 : \iota \Rightarrow \iota$  be given. Let  $m2\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $r1\_xxreal\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v2\_xxreal\_0 : \iota \Rightarrow o$  be given. Let  $np\_1 : \iota$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $k4\_ordinal1 : \iota$  be given. Let  $v3\_ordinal1 : \iota \Rightarrow o$  be given. Assume the following.

$$\begin{aligned} & \forall X0.(v1\_xreal\_0 X0) \Rightarrow (\forall X1.((v1\_funct\_1 X1) \wedge ((v1\_funct\_2 \\ & X1 k5\_numbers k1\_numbers) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 \\ & k5\_numbers k1\_numbers)))))) \Rightarrow ((\exists X2.(m2\_subset\_1 X2 k1\_numbers \\ & k5\_numbers) \wedge (\forall X3.(m2\_subset\_1 X3 k1\_numbers k5\_numbers) \Rightarrow \\ & ((r1\_xxreal\_0 X2 X3) \Rightarrow (k1\_seq\_1 X1 X3 = X0)))) \Rightarrow ((v2\_comseq\_2 X1) \wedge \\ & (k2\_seq\_2 X1 = X0)))) \end{aligned} \tag{1}$$

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.

$$\begin{aligned} & \forall X0.\forall X1.((\neg v1\_xboole\_0 X0) \wedge ((\neg v1\_xboole\_0 X1) \wedge \\ & (m1\_subset\_1 X1 (k1\_zfmisc\_1 X0)))) \Rightarrow (\forall X2.(m2\_subset\_1 \\ & X2 X0 X1) \Leftrightarrow (m1\_subset\_1 X2 X1)) \end{aligned} \tag{3}$$

Assume the following.

$$k5\_numbers = k4\_ordinal1 \tag{4}$$

Assume the following.

$$(\neg v1\_xboole\_0 k4\_ordinal1) \wedge (v3\_ordinal1 k4\_ordinal1) \tag{5}$$

Assume the following.

$$\neg v1\_xboole\_0 \ k1\_numbers \quad (6)$$

Assume the following.

$$m1\_subset\_1 \ k5\_numbers \ (k1\_zfmisc\_1 \ k1\_numbers) \quad (7)$$

Assume the following.

$$\forall X0.(m1\_subset\_1 \ X0 \ k4\_ordinal1) \Rightarrow (v7\_ordinal1 \ X0) \quad (8)$$

**Theorem 1**

$$\begin{aligned} & \forall X0.(v1\_xreal\_0 \ X0) \Rightarrow (\forall X1.((v1\_funct\_1 \ X1) \wedge ((v1\_funct\_2 \\ & X1 \ k5\_numbers \ k1\_numbers) \wedge (m1\_subset\_1 \ X1 \ (k1\_zfmisc\_1 \ (k2\_zfmisc\_1 \\ & k5\_numbers \ k1\_numbers)))))) \Rightarrow ((\forall X2.(v7\_ordinal1 \ X2) \Rightarrow ( \\ & k1\_seq\_1 \ X1 \ X2 = X0)) \Rightarrow ((v2\_comseq\_2 \ X1) \wedge (k2\_seq\_2 \ X1 = X0)))) \end{aligned}$$