t22_rat_1 (TMUwRsVFaJVB-sMy5CNP4T2UMxLUQ1LkAhfB)

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Let $v1\_rat\_1 : \iota \Rightarrow o$ be given. Let $r1\_xxreal\_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $np\_\_1 : \iota$ be given. Let $k2\_real\_1 : \iota \Rightarrow \iota$ be given. Let $k1\_rat\_1 : \iota \Rightarrow \iota$ be given. Let $v1\_int\_1 : \iota \Rightarrow o$ be given. Let $v1\_xxreal\_0 : \iota \Rightarrow o$ be given. Let $k2\_rat\_1 : \iota \Rightarrow \iota$ be given. Let $k6\_real\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4\_real\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k8\_real\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ 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 $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k4\_ordinal1 : \iota$ be given. Let $v1\_xboole\_0 : \iota \Rightarrow o$ be given. Let $v3\_ordinal1 : \iota \Rightarrow o$ be given. Let $k1\_zfmisc\_1 : \iota \Rightarrow \iota$ be given. Let $v1\_xreal\_0 : \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0.(v1\_xxreal\_0\ X0) \Rightarrow (\forall X1.(v1\_xxreal\_0\ X1) \Rightarrow (((r1\_xxreal\_0\ X0\ X1) \wedge (r1\_xxreal\_0\ X1\ X0)) \Rightarrow (X0 = X1))) \tag{1}$$

Assume the following.

$$\forall X0.(v1\_rat\_1\ X0) \Rightarrow ((v1\_int\_1\ X0) \Rightarrow ((k1\_rat\_1\ X0 = np\_\_1) \wedge (k2\_rat\_1\ X0 = X0))) \tag{2}$$

Assume the following.

$$\forall X0.(v1\_rat\_1\ X0) \Rightarrow ((X0 = k6\_real\_1\ (k2\_rat\_1\ X0)\ (k1\_rat\_1\ X0)) \wedge ((X0 = k4\_real\_1\ (k2\_rat\_1\ X0)\ (k2\_real\_1\ (k1\_rat\_1\ X0))) \wedge (X0 = k8\_real\_1\ (k2\_real\_1\ (k1\_rat\_1\ X0))\ (k2\_rat\_1\ X0)))) \tag{3}$$

Assume the following.

$$\forall X0.(v1\_rat\_1\ X0) \Rightarrow (r1\_xxreal\_0\ (k2\_real\_1\ (k1\_rat\_1\ X0))\ np\_\_1) \tag{4}$$

Assume the following.

$$((v2\_xxreal\_0\ np\_\_1) \wedge (m2\_subset\_1\ np\_\_1\ k1\_numbers\ k5\_numbers)) \wedge ((m1\_subset\_1\ np\_\_1\ k5\_numbers) \wedge (m1\_subset\_1\ np\_\_1\ k1\_numbers)) \tag{5}$$

Assume the following.

$$r1\_xxreal\_0\ np\_\_1\ np\_\_1 \tag{6}$$

Assume the following.

$$k5\_numbers = k4\_ordinal1 \tag{7}$$

Assume the following.

$$k2\_real\_1\ np\_\_1 = np\_\_1 \tag{8}$$

Assume the following.

$$(\neg v1\_xboole\_0\ k4\_ordinal1) \wedge (v3\_ordinal1\ k4\_ordinal1) \tag{9}$$

Assume the following.

$$\neg v1\_xboole\_0\ k1\_numbers \tag{10}$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1\_xboole\_0\ X0) \wedge ((\neg v1\_xboole\_0\ X1) \wedge (m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ X0)))) \Rightarrow (\forall X2.(m2\_subset\_1\ X2\ X0\ X1) \Rightarrow (m1\_subset\_1\ X2\ X0)) \tag{11}$$

Assume the following.

$$m1\_subset\_1\ k5\_numbers\ (k1\_zfmisc\_1\ k1\_numbers) \tag{12}$$

Assume the following.

$$\forall X0.(m1\_subset\_1\ X0\ k1\_numbers) \Rightarrow (m1\_subset\_1\ (k2\_real\_1\ X0)\ k1\_numbers) \tag{13}$$

Assume the following.

$$\forall X0.(v1\_rat\_1\ X0) \Rightarrow (v1\_int\_1\ (k2\_rat\_1\ X0)) \tag{14}$$

Assume the following.

$$\forall X0.(v1\_rat\_1\ X0) \Rightarrow (m2\_subset\_1\ (k1\_rat\_1\ X0)\ k1\_numbers\ k5\_numbers) \tag{15}$$

Assume the following.

$$\forall X0.(v1\_xreal\_0\ X0) \Rightarrow (v1\_xxreal\_0\ X0) \tag{16}$$

Assume the following.

$$\forall X0.(v1\_int\_1\ X0) \Rightarrow (v1\_rat\_1\ X0) \tag{17}$$

Assume the following.

$$\forall X0.(m1\_subset\_1\ X0\ k1\_numbers) \Rightarrow (v1\_xreal\_0\ X0) \tag{18}$$

Theorem 1

$$\forall X0.(v1\_rat\_1\ X0) \Rightarrow ((\neg(\neg r1\_xxreal\_0\ np\_\_1\ (k2\_real\_1\ (k1\_rat\_1\ X0))) \wedge (v1\_int\_1\ X0)) \wedge (\neg(\neg v1\_int\_1\ X0) \wedge (r1\_xxreal\_0\ np\_\_1\ (k2\_real\_1\ (k1\_rat\_1\ X0)))))$$