

# t11\_rat\_1 (TMNJVdC- SAAUd5erUGisWuzv7G5AdpLi6KtA)

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Let  $v1\_rat\_1 : \iota \Rightarrow o$  be given. Let  $r1\_xreal\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $np\_1 : \iota$  be given. Let  $k1\_rat\_1 : \iota \Rightarrow \iota$  be given. Let  $k6\_numbers : \iota$  be given. Let  $k1\_xboole\_0 : \iota$  be given. Let  $k5\_numbers : \iota$  be given. Let  $k4\_ordinal1 : \iota$  be given. Let  $m2\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_numbers : \iota$  be given. Let  $v1\_int\_1 : \iota \Rightarrow o$  be given. Let  $k6\_real\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Assume the following.

$$k6\_numbers = k1\_xboole\_0 \tag{1}$$

Assume the following.

$$k5\_numbers = k4\_ordinal1 \tag{2}$$

Assume the following.

$$\forall X0.(m2\_subset\_1 X0 k1\_numbers k5\_numbers) \Rightarrow ((\neg r1\_xreal\_0 np\_1 X0) \Rightarrow (X0 = k6\_numbers)) \tag{3}$$

Assume the following.

$$m2\_subset\_1 k6\_numbers k1\_numbers k5\_numbers \tag{4}$$

Assume the following.

$$\forall X0.(v1\_rat\_1 X0) \Rightarrow (m2\_subset\_1 (k1\_rat\_1 X0) k1\_numbers k5\_numbers) \tag{5}$$

Assume the following.

$$\begin{aligned} \forall X0.(v1\_rat\_1 X0) \Rightarrow (\forall X1.(m2\_subset\_1 X1 k1\_numbers \\ k5\_numbers) \Rightarrow ((X1 = k1\_rat\_1 X0) \Leftrightarrow ((X1 \neq k6\_numbers) \wedge ((\exists X2. \\ (v1\_int\_1 X2) \wedge (X0 = k6\_real\_1 X2 X1)) \wedge (\forall X2.(v1\_int\_1 X2) \Rightarrow \\ (\forall X3.(m2\_subset\_1 X3 k1\_numbers k5\_numbers) \Rightarrow ((X0 = k6\_real\_1 \\ X2 X3) \Rightarrow ((X3 = k6\_numbers) \vee (r1\_xreal\_0 X1 X3)))))))))) \end{aligned} \tag{6}$$

Assume the following.

$$k1\_xboole\_0 = the (\lambda X0 : \iota.v1\_xboole\_0 X0) \tag{7}$$

**Theorem 1**  $\forall X0.(v1\_rat\_1 X0) \Rightarrow (r1\_xreal\_0 np\_1 (k1\_rat\_1 X0)).$