

# t20\_int\_5 (TMQeYZLSbyprNmWkdhgMstRbT- npwncApgiH)

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Let  $v1\_int\_1 : \iota \Rightarrow o$  be given. Let  $v7\_ordinal1 : \iota \Rightarrow o$  be given. Let  $v1\_int\_2 : \iota \Rightarrow o$  be given. Let  $k3\_int\_2 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $np\_1 : \iota$  be given. Let  $r1\_int\_5 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $r1\_xxreal\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $np\_2 : \iota$  be given. Let  $k6\_int\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k6\_xcmplx\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_newton : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k3\_nat\_d : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k7\_nat\_d : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k6\_numbers : \iota$  be given. Let  $r2\_int\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $r1\_int\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v1\_xreal\_0 : \iota \Rightarrow o$  be given. Let  $v2\_xxreal\_0 : \iota \Rightarrow o$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_xboole\_0 : \iota$  be given. Let  $k4\_ordinal1 : \iota$  be given. Let  $k4\_nat\_d : \iota \Rightarrow \iota \Rightarrow \iota$  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  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $v1\_xxreal\_0 : \iota \Rightarrow o$  be given. Let  $v3\_xxreal\_0 : \iota \Rightarrow o$  be given. Assume the following.

$$\begin{aligned} & \forall X0.(v1\_int\_1 X0) \Rightarrow (\forall X1.(v1\_int\_1 X1) \Rightarrow (\forall X2. \\ & (v1\_int\_1 X2) \Rightarrow (((k6\_int\_1 X1 X0 = k6\_int\_1 X2 X0) \Rightarrow ((X0 = k6\_numbers) \vee \\ & (r2\_int\_1 X1 X2 X0)))) \wedge ((r2\_int\_1 X1 X2 X0) \Rightarrow (k6\_int\_1 X1 X0 = k6\_int\_1 \\ & X2 X0)))))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0.(v7\_ordinal1 X0) \Rightarrow ((\neg r1\_xreal\_0 X0 k6\_numbers) \Rightarrow ( \\ & \forall X1.(v1\_int\_1 X1) \Rightarrow ((k6\_int\_1 X1 X0 = k6\_numbers) \Leftrightarrow (r1\_int\_1 \\ & X0 X1)))) \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned} & \forall X0.(v1\_xreal\_0 X0) \Rightarrow (\forall X1.(v1\_xreal\_0 X1) \Rightarrow (((r1\_xxreal\_0 \\ & X0 X1) \wedge (v2\_xxreal\_0 X0)) \Rightarrow (v2\_xxreal\_0 X1))) \end{aligned} \tag{3}$$

Assume the following.

$$m1\_subset\_1 k1\_xboole\_0 k4\_ordinal1 \tag{4}$$

Assume the following.

$$\begin{aligned} \forall X0.(v1\_int\_1 X0) \Rightarrow (\forall X1.((v7\_ordinal1 X1) \wedge (v1\_int\_2 \\ X1)) \Rightarrow (((k3\_int\_2 X0 X1 = np\_1) \wedge (r1\_int\_5 X0 X1)) \Rightarrow ((r1\_xxreal\_0 \\ X1 np\_2) \vee (k6\_int\_1 (k1\_newton X0 (k3\_nat\_d (k7\_nat\_d X1 np\_1) \\ np\_2)) X1 = np\_1)))) \end{aligned} \quad (5)$$

Assume the following.

$$\begin{aligned} \forall X0.(v1\_int\_1 X0) \Rightarrow (\forall X1.(v1\_int\_1 X1) \Rightarrow (\forall X2. \\ (v1\_int\_1 X2) \Rightarrow ((r2\_int\_1 X0 X1 X2) \Leftrightarrow (r1\_int\_1 X2 (k6\_xcmplx\_0 X0 \\ X1)))) \end{aligned} \quad (6)$$

Assume the following.

$$\forall X0.(v7\_ordinal1 X0) \Rightarrow ((\neg r1\_xxreal\_0 X0 np\_1) \Rightarrow (k4\_nat\_d \\ np\_1 X0 = np\_1)) \quad (7)$$

Assume the following.

$$\begin{aligned} ((v2\_xxreal\_0 np\_2) \wedge (m2\_subset\_1 np\_2 k1\_numbers k5\_numbers)) \wedge \\ ((m1\_subset\_1 np\_2 k5\_numbers) \wedge (m1\_subset\_1 np\_2 k1\_numbers)) \end{aligned} \quad (8)$$

Assume the following.

$$\begin{aligned} ((v2\_xxreal\_0 np\_1) \wedge (m2\_subset\_1 np\_1 k1\_numbers k5\_numbers)) \wedge \\ ((m1\_subset\_1 np\_1 k5\_numbers) \wedge (m1\_subset\_1 np\_1 k1\_numbers)) \end{aligned} \quad (9)$$

Assume the following.

$$k6\_numbers = k1\_xboole\_0 \quad (10)$$

Assume the following.

$$k5\_numbers = k4\_ordinal1 \quad (11)$$

Assume the following.

$$\forall X0.\forall X1.((v7\_ordinal1 X0) \wedge (v7\_ordinal1 X1)) \Rightarrow ( \\ k4\_nat\_d X0 X1 = k6\_int\_1 X0 X1) \quad (12)$$

Assume the following.

$$\forall X0.\forall X1.((v1\_int\_1 X0) \wedge (v1\_int\_1 X1)) \Rightarrow (v1\_int\_1 \\ (k6\_xcmplx\_0 X0 X1)) \quad (13)$$

Assume the following.

$$v1\_xboole\_0 k1\_xboole\_0 \quad (14)$$

Assume the following.

$$\forall X0.\forall X1.((v1\_int\_1 X0) \wedge (v7\_ordinal1 X1)) \Rightarrow (v1\_int\_1 \\ (k1\_newton X0 X1)) \quad (15)$$

Assume the following.

$$\forall X0.\forall X1.((v7\_ordinal1\ X0)\wedge(v7\_ordinal1\ X1))\Rightarrow(m1\_subset\_1\ (k7\_nat\_d\ X0\ X1)\ k5\_numbers) \quad (16)$$

Assume the following.

$$\forall X0.\forall X1.((v7\_ordinal1\ X0)\wedge(v7\_ordinal1\ X1))\Rightarrow(m1\_subset\_1\ (k3\_nat\_d\ X0\ X1)\ k5\_numbers) \quad (17)$$

Assume the following.

$$\forall X0.(v7\_ordinal1\ X0)\Rightarrow((v1\_int\_2\ X0)\Leftrightarrow((\neg r1\_xxreal\_0\ X0\ np\_1)\wedge(\forall X1.(v7\_ordinal1\ X1)\Rightarrow(\neg(r1\_int\_1\ X1\ X0)\wedge((X1\neq np\_1)\wedge(X1\neq X0)))))) \quad (18)$$

Assume the following.

$$\forall X0.\forall X1.((v1\_xxreal\_0\ X0)\wedge(v1\_xxreal\_0\ X1))\Rightarrow((r1\_xxreal\_0\ X0\ X1)\vee(r1\_xxreal\_0\ X1\ X0)) \quad (19)$$

Assume the following.

$$\forall X0.(m1\_subset\_1\ X0\ k4\_ordinal1)\Rightarrow(v7\_ordinal1\ X0) \quad (20)$$

Assume the following.

$$\forall X0.(v1\_xreal\_0\ X0)\Rightarrow(v1\_xxreal\_0\ X0) \quad (21)$$

Assume the following.

$$\forall X0.(((v1\_xxreal\_0\ X0)\wedge(v2\_xxreal\_0\ X0))\Rightarrow((\neg v1\_xboole\_0\ X0)\wedge((v1\_xxreal\_0\ X0)\wedge(\neg v3\_xxreal\_0\ X0)))) \quad (22)$$

Assume the following.

$$\forall X0.(v7\_ordinal1\ X0)\Rightarrow(v1\_xreal\_0\ X0) \quad (23)$$

Assume the following.

$$\forall X0.(v7\_ordinal1\ X0)\Rightarrow(v1\_int\_1\ X0) \quad (24)$$

Assume the following.

$$\forall X0.(m1\_subset\_1\ X0\ k1\_numbers)\Rightarrow(v1\_xreal\_0\ X0) \quad (25)$$

**Theorem 1**

$$\forall X0.(v1\_int\_1\ X0)\Rightarrow(\forall X1.((v7\_ordinal1\ X1)\wedge(v1\_int\_2\ X1))\Rightarrow(((k3\_int\_2\ X0\ X1 = np\_1)\wedge(r1\_int\_5\ X0\ X1))\Rightarrow((r1\_xxreal\_0\ X1\ np\_2)\vee(k6\_int\_1\ (k6\_xcmplx\_0\ (k1\_newton\ X0\ (k3\_nat\_d\ (k7\_nat\_d\ X1\ np\_1)\ np\_2))\ np\_1)\ X1 = k6\_numbers))))))$$