

t54\_newton (TMPW-  
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Let  $v7\_ordinal1 : \iota \Rightarrow o$  be given. Let  $k6\_nat\_d : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k5\_nat\_d : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $r1\_nat\_d : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k2\_int\_2 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_int\_1 : \iota \Rightarrow o$  be given. Assume the following.

$$\forall X0.(v7\_ordinal1 X0) \Rightarrow (\forall X1.(v7\_ordinal1 X1) \Rightarrow ((r1\_nat\_d X0 X1) \Rightarrow (k6\_nat\_d X0 X1 = X0))) \quad (1)$$

Assume the following.

$$\forall X0.\forall X1.((v7\_ordinal1 X0) \wedge (v7\_ordinal1 X1)) \Rightarrow (k5\_nat\_d X0 X1 = k2\_int\_2 X0 X1) \quad (2)$$

Assume the following.

$$\forall X0.\forall X1.((v1\_int\_1 X0) \wedge (v1\_int\_1 X1)) \Rightarrow (v7\_ordinal1 (k2\_int\_2 X0 X1)) \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0.(v7\_ordinal1 X0) \Rightarrow (\forall X1.(v7\_ordinal1 X1) \Rightarrow (\forall X2. \\ & (v7\_ordinal1 X2) \Rightarrow ((X2 = k2\_int\_2 X0 X1) \Leftrightarrow ((r1\_nat\_d X0 X2) \wedge ((r1\_nat\_d \\ & X1 X2) \wedge (\forall X3.(v7\_ordinal1 X3) \Rightarrow (((r1\_nat\_d X0 X3) \wedge (r1\_nat\_d \\ & X1 X3)) \Rightarrow (r1\_nat\_d X2 X3)))))))))) \quad (4) \end{aligned}$$

Assume the following.

$$\forall X0.(v7\_ordinal1 X0) \Rightarrow (v1\_int\_1 X0) \quad (5)$$

**Theorem 1**

$$\forall X0.(v7\_ordinal1 X0) \Rightarrow (\forall X1.(v7\_ordinal1 X1) \Rightarrow (k6\_nat\_d X0 (k5\_nat\_d X0 X1) = X0))$$