

t40_wellord1

(TMVeNu5Ykns29GfxFVMZwPsCT1V1yFHVTNK)

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Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $r4_wellord1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $r3_wellord1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_funct_1 : \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} & \forall X0.(v1_relat_1 X0) \Rightarrow (\forall X1.(v1_relat_1 X1) \Rightarrow (\forall X2. \\ & ((v1_relat_1 X2) \wedge (v1_funct_1 X2)) \Rightarrow ((r3_wellord1 X0 X1 X2) \Rightarrow (r3_wellord1 \\ & X1 X0 (k2_funct_1 X2)))))) \end{aligned} \tag{1}$$

Assume the following.

$$\forall X0.((v1_relat_1 X0) \wedge (v1_funct_1 X0)) \Rightarrow ((v1_relat_1 (k2_funct_1 X0)) \wedge (v1_funct_1 (k2_funct_1 X0))) \tag{2}$$

Assume the following.

$$\begin{aligned} & \forall X0.(v1_relat_1 X0) \Rightarrow (\forall X1.(v1_relat_1 X1) \Rightarrow ((r4_wellord1 \\ & X0 X1) \Leftrightarrow (\exists X2.((v1_relat_1 X2) \wedge (v1_funct_1 X2)) \wedge (r3_wellord1 \\ & X0 X1 X2)))) \end{aligned} \tag{3}$$

Theorem 1

$$\forall X0.(v1_relat_1 X0) \Rightarrow (\forall X1.(v1_relat_1 X1) \Rightarrow ((r4_wellord1 X0 X1) \Rightarrow (r4_wellord1 X1 X0)))$$