

thm_2Equotient_2ERESPECTS (TMNyywLtDmTLuR24itMb8tzav2S2aXrw7Z5)

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Definition 1 We define `c_2Emin_2E_3D` to be $\lambda A. \lambda x \in A. \lambda y \in A. \text{inj_o } (x = y)$ of type $\iota \Rightarrow \iota$.

Definition 2 We define `c_2Ebool_2ET` to be $(\text{ap } (\text{ap } (\text{c_2Emin_2E_3D } (2^2))) (\lambda V0x \in 2. V0x)) (\lambda V1x \in 2. V1x)$

Definition 3 We define `c_2Ebool_2E_21` to be $\lambda A_27a : \iota. (\lambda V0P \in (2^{A_27a}). (\text{ap } (\text{ap } (\text{c_2Emin_2E_3D } (2^{A_27a}))))$

Definition 4 We define `c_2Ecombin_2EW` to be $\lambda A_27a : \iota. \lambda A_27b : \iota. (\lambda V0f \in ((A_27b^{A_27a})^{A_27a}). (\lambda V1x \in A_27a. (\text{ap } (\text{ap } (\text{c_2Ecombin_2EW } A_27a } A_27b) V0f) V1x)))$

Definition 5 We define `c_2Equotient_2Erespects` to be $\lambda A_27a : \iota. \lambda A_27b : \iota. (\text{c_2Ecombin_2EW } A_27a } A_27b)$

Assume the following.

$$\text{True} \tag{1}$$

Assume the following.

$$\forall A_27a. \text{nonempty } A_27a \Rightarrow (\forall V0x \in A_27a. ((V0x = V0x) \Leftrightarrow \text{True})) \tag{2}$$

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$$\forall A_27a. \text{nonempty } A_27a \Rightarrow \forall A_27b. \text{nonempty } A_27b \Rightarrow (\forall V0f \in ((A_27b^{A_27a})^{A_27a}). (\forall V1x \in A_27a. ((\text{ap } (\text{ap } (\text{c_2Ecombin_2EW } A_27a } A_27b) V0f) V1x) = (\text{ap } (\text{ap } V0f } V1x) V1x)))) \tag{3}$$

Theorem 1

$$\forall A_27a. \text{nonempty } A_27a \Rightarrow (\forall V0R \in ((2^{A_27a})^{A_27a}). (\forall V1x \in A_27a. ((p (\text{ap } (\text{ap } (\text{c_2Equotient_2Erespects } A_27a } A_27a) V0R) V1x) \Leftrightarrow (p (\text{ap } (\text{ap } V0R } V1x) V1x))))))$$