

thm_2Emeasure_2EIN_MEASURABLE_BOREL_ALT7 (TMYFNW5Tp1CJJNLADf62bxRVSEDWnAqzxaw)

October 26, 2020

Definition 1 We define $c_2Emin_2E_40$ to be $\lambda A.\lambda P \in 2^A.$ if $(\exists x \in A.p (ap P x))$ then (the $(\lambda x.x \in A \wedge p$ of type $\iota \Rightarrow \iota$).

Definition 2 We define $c_2Emin_2E_3D$ to be $\lambda A.\lambda x \in A.\lambda y \in A.inj_o (x = y)$ of type $\iota \Rightarrow \iota$.

Definition 3 We define $c_2Ecombin_2ES$ to be $\lambda A.\lambda A.\lambda A.\lambda A.\lambda A.\lambda V0f \in ((A.\lambda V0c^{A.\lambda V0b})^{A.\lambda V0a})$

Definition 4 We define $c_2Ecombin_2EC$ to be $\lambda A.\lambda A.\lambda A.\lambda A.\lambda A.\lambda A.\lambda V0f \in ((A.\lambda V0c^{A.\lambda V0b})^{A.\lambda V0a})$

Definition 5 We define $c_2Ebool_2E_2ET$ to be $(ap (ap (c_2Emin_2E_3D (2^2)) (\lambda V0x \in 2.V0x)) (\lambda V1x \in 2.V1x))$

Definition 6 We define $c_2Ebool_2E_2E21$ to be $\lambda A.\lambda A.\lambda A.\lambda A.\lambda A.\lambda V0P \in (2^{A.\lambda V0a}).(ap (ap (c_2Emin_2E_3D (2^{A.\lambda V0a}))$

Definition 7 We define $c_2Ecombin_2Eo$ to be $\lambda A.\lambda A.\lambda A.\lambda A.\lambda A.\lambda V0f \in (A.\lambda V0b^{A.\lambda V0c}).\lambda V1g$

Definition 8 We define $c_2Ebool_2E_2EIN$ to be $\lambda A.\lambda A.\lambda A.\lambda A.\lambda A.\lambda V0x \in A.\lambda A.\lambda V1f \in (2^{A.\lambda V0a}).(ap V1f V0x))$

Definition 9 We define $c_2Emin_2E_3D_3D_3E$ to be $\lambda P \in 2.\lambda Q \in 2.inj_o (p \Rightarrow q)$ of type ι .

Definition 10 We define $c_2Ebool_2E_2E_2F_5C$ to be $(\lambda V0t1 \in 2.(\lambda V1t2 \in 2.(ap (c_2Ebool_2E_2E21) 2) (\lambda V2t \in 2.V2t))$

Definition 11 We define $c_2Ebool_2E_2E_3F$ to be $\lambda A.\lambda A.\lambda A.\lambda A.\lambda A.\lambda V0P \in (2^{A.\lambda V0a}).(ap V0P (ap (c_2Emin_2E_40$

Let $ty_2Epair_2Eprod : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall A0.nonempty A0 \Rightarrow \forall A1.nonempty A1 \Rightarrow nonempty (ty_2Epair_2Eprod A0 A1) \tag{1}$$

Let $c_2Epair_2EABS_prod : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall A.\lambda A.\lambda A.\lambda A.\lambda A.\lambda A.\lambda V0P \in (2^{A.\lambda V0a}).(ap V0P (ap (c_2Emin_2E_40 A.\lambda V0a A.\lambda V0b) ((ty_2Epair_2Eprod A.\lambda V0a A.\lambda V0b)^{(2^{A.\lambda V0b})^{A.\lambda V0a}})) \tag{2}$$

Let $ty_2Eextreal_2Eextreal : \iota$ be given. Assume the following.

$$nonempty\ ty_2Eextreal_2Eextreal \quad (7)$$

Let $c_2Eextreal_2Eextreal_le : \iota$ be given. Assume the following.

$$c_2Eextreal_2Eextreal_le \in ((2^{ty_2Eextreal_2Eextreal})^{ty_2Eextreal_2Eextreal}) \quad (8)$$

Definition 26 We define $c_2Eextreal_2Eextreal_lt$ to be $\lambda V0x \in ty_2Eextreal_2Eextreal.\lambda V1y \in ty_2Eextreal_2Eextreal$

Definition 27 We define $c_2Epred_set_2EFUNSET$ to be $\lambda A_27a : \iota.\lambda A_27b : \iota.\lambda V0P \in (2^{A_27a}).\lambda V1Q \in (2^{A_27b})$

Definition 28 We define $c_2Emeasure_2Esigma_algebra$ to be $\lambda A_27a : \iota.\lambda V0a \in (ty_2Epair_2Eprod\ (2^{A_27a}))$

Definition 29 We define $c_2Epred_set_2EIMAGE$ to be $\lambda A_27a : \iota.\lambda A_27b : \iota.\lambda V0f \in (A_27b^{A_27a}).\lambda V1s \in (2^{A_27a})$

Definition 30 We define $c_2Epred_set_2EBIGINTER$ to be $\lambda A_27a : \iota.\lambda V0P \in (2^{(2^{A_27a})}).(ap\ (c_2Epred_set_2EIMAGE))$

Definition 31 We define $c_2Emeasure_2Esigma$ to be $\lambda A_27a : \iota.\lambda V0sp \in (2^{A_27a}).\lambda V1st \in (2^{(2^{A_27a})}).(ap\ (c_2Emeasure_2Esigma_algebra))$

Definition 32 We define $c_2Emeasure_2EBorel$ to be $(ap\ (ap\ (c_2Emeasure_2Esigma\ ty_2Eextreal_2Eextreal)))$

Definition 33 We define $c_2Epred_set_2EPREIMAGE$ to be $\lambda A_27a : \iota.\lambda A_27b : \iota.\lambda V0f \in (A_27b^{A_27a}).\lambda V1s \in (2^{A_27a})$

Definition 34 We define $c_2Epred_set_2EINTER$ to be $\lambda A_27a : \iota.\lambda V0s \in (2^{A_27a}).\lambda V1t \in (2^{A_27a}).(ap\ (c_2Epred_set_2EIMAGE))$

Definition 35 We define $c_2Emeasure_2Emeasurable$ to be $\lambda A_27a : \iota.\lambda A_27b : \iota.\lambda V0a \in (ty_2Epair_2Eprod\ (2^{A_27a}))$

Assume the following.

$$True \quad (9)$$

Assume the following.

$$(\forall V0t1 \in 2.(\forall V1t2 \in 2.(((p\ V0t1) \Rightarrow (p\ V1t2)) \Rightarrow (((p\ V1t2) \Rightarrow (p\ V0t1)) \Rightarrow ((p\ V0t1) \Leftrightarrow (p\ V1t2)))))) \quad (10)$$

Assume the following.

$$(\forall V0t \in 2.(False \Rightarrow (p\ V0t))) \quad (11)$$

Assume the following.

$$\forall A_27a.nonempty\ A_27a \Rightarrow (\forall V0t \in 2.((\forall V1x \in A_27a.(p\ V0t)) \Leftrightarrow (p\ V0t))) \quad (12)$$

Assume the following.

$$(\forall V0t \in 2.((\neg(p\ V0t)) \Rightarrow ((p\ V0t) \Rightarrow False))) \quad (13)$$

Assume the following.

$$(\forall V0t \in 2.(((True \Rightarrow (p V0t)) \Leftrightarrow (p V0t)) \wedge (((p V0t) \Rightarrow True) \Leftrightarrow True) \wedge (((False \Rightarrow (p V0t)) \Leftrightarrow True) \wedge (((p V0t) \Rightarrow (p V0t)) \Leftrightarrow True) \wedge ((p V0t) \Rightarrow False) \Leftrightarrow (\neg(p V0t)))))) \quad (14)$$

Assume the following.

$$((\forall V0t \in 2.((\neg(\neg(p V0t))) \Leftrightarrow (p V0t)) \wedge ((\neg True) \Leftrightarrow False) \wedge ((\neg False) \Leftrightarrow True))) \quad (15)$$

Assume the following.

$$\forall A.27a.nonempty \ A.27a \Rightarrow (\forall V0x \in A.27a.((V0x = V0x) \Leftrightarrow True)) \quad (16)$$

Assume the following.

$$\forall A.27a.nonempty \ A.27a \Rightarrow (\forall V0x \in A.27a.(\forall V1y \in A.27a.((V0x = V1y) \Leftrightarrow (V1y = V0x)))) \quad (17)$$

Assume the following.

$$(\forall V0t \in 2.(((True \Leftrightarrow (p V0t)) \Leftrightarrow (p V0t)) \wedge (((p V0t) \Leftrightarrow True) \Leftrightarrow (p V0t)) \wedge (((False \Leftrightarrow (p V0t)) \Leftrightarrow (\neg(p V0t))) \wedge (((p V0t) \Leftrightarrow False) \Leftrightarrow (\neg(p V0t)))))) \quad (18)$$

Assume the following.

$$\forall A.27a.nonempty \ A.27a \Rightarrow (\forall V0P \in 2.(\forall V1Q \in (2^{A.27a}).(((p V0P) \wedge (\forall V2x \in A.27a.(p (ap V1Q V2x)))) \Leftrightarrow (\forall V3x \in A.27a.((p V0P) \wedge (p (ap V1Q V3x))))))) \quad (19)$$

Assume the following.

$$\forall A.27a.nonempty \ A.27a \Rightarrow (\forall V0P \in 2.(\forall V1Q \in (2^{A.27a}).(((\forall V2x \in A.27a.((p V0P) \vee (p (ap V1Q V2x)))) \Leftrightarrow ((p V0P) \vee (\forall V3x \in A.27a.(p (ap V1Q V3x))))))) \quad (20)$$

Assume the following.

$$(\forall V0A \in 2.(\forall V1B \in 2.(\forall V2C \in 2.(((p V0A) \vee ((p V1B) \wedge (p V2C))) \Leftrightarrow (((p V0A) \vee (p V1B)) \wedge ((p V0A) \vee (p V2C)))))) \quad (21)$$

Assume the following.

$$\forall A.27a.nonempty \ A.27a \Rightarrow (\forall V0P \in (2^{A.27a}).(\forall V1a \in A.27a.((\exists V2x \in A.27a.((V2x = V1a) \wedge (p (ap V0P V2x)))) \Leftrightarrow (p (ap V0P V1a)))))) \quad (22)$$

Assume the following.

$$\begin{aligned}
& \forall A_27a.nonempty\ A_27a \Rightarrow (\forall V0a \in (ty_2Epair_2Eprod \\
& \quad (2^{A_27a})\ (2^{(2^{A_27a})})). (\forall V1s \in (2^{A_27a}). (\forall V2t \in \\
& \quad (2^{A_27a}). ((p\ (ap\ (c_2Emeasure_2Ealgebra\ A_27a)\ V0a)) \wedge ((p\ (\\
& \quad ap\ (ap\ (c_2Ebool_2EIN\ (2^{A_27a})\ V1s)\ (ap\ (c_2Emeasure_2Esubsets \\
& \quad A_27a)\ V0a))) \wedge (p\ (ap\ (ap\ (c_2Ebool_2EIN\ (2^{A_27a})\ V2t)\ (ap\ (c_2Emeasure_2Esubsets \\
& \quad A_27a)\ V0a)))))) \Rightarrow (p\ (ap\ (ap\ (c_2Ebool_2EIN\ (2^{A_27a})\ (ap\ (ap\ (c_2Epred_set_2EINTER \\
& \quad A_27a)\ V1s)\ V2t))\ (ap\ (c_2Emeasure_2Esubsets\ A_27a)\ V0a))))))
\end{aligned} \tag{23}$$

Assume the following.

$$\begin{aligned}
& \forall A_27a.nonempty\ A_27a \Rightarrow (\forall V0f \in (ty_2Eextreal_2Eextreal^{A_27a}). \\
& \quad (\forall V1a \in (ty_2Epair_2Eprod\ (2^{A_27a})\ (2^{(2^{A_27a})})). ((\\
& \quad p\ (ap\ (ap\ (c_2Ebool_2EIN\ (ty_2Eextreal_2Eextreal^{A_27a})\ V0f)\ \\
& \quad (ap\ (ap\ (c_2Emeasure_2Emeasurable\ A_27a\ ty_2Eextreal_2Eextreal) \\
& \quad V1a)\ c_2Emeasure_2EBorel))) \Leftrightarrow ((p\ (ap\ (c_2Emeasure_2Esigma_algebra \\
& \quad A_27a)\ V1a)) \wedge ((p\ (ap\ (ap\ (c_2Ebool_2EIN\ (ty_2Eextreal_2Eextreal^{A_27a}) \\
& \quad V0f)\ (ap\ (ap\ (c_2Epred_set_2EFUNSET\ A_27a\ ty_2Eextreal_2Eextreal) \\
& \quad (ap\ (c_2Emeasure_2Espace\ A_27a)\ V1a))\ (c_2Epred_set_2EUNIV \\
& \quad ty_2Eextreal_2Eextreal)))) \wedge (\forall V2c \in ty_2Eextreal_2Eextreal. \\
& \quad (p\ (ap\ (ap\ (c_2Ebool_2EIN\ (2^{A_27a})\ (ap\ (ap\ (c_2Epred_set_2EINTER \\
& \quad A_27a)\ (ap\ (c_2Epred_set_2EGSPEC\ A_27a\ A_27a)\ (\lambda V3x \in A_27a. \\
& \quad (ap\ (ap\ (c_2Epair_2E_2C\ A_27a\ 2)\ V3x)\ (ap\ (ap\ c_2Eextreal_2Eextreal_lt \\
& \quad (ap\ V0f\ V3x))\ V2c))))))\ (ap\ (c_2Emeasure_2Espace\ A_27a)\ V1a)))\ (\\
& \quad ap\ (c_2Emeasure_2Esubsets\ A_27a)\ V1a))))))
\end{aligned} \tag{24}$$

Assume the following.

$$\begin{aligned}
& \forall A_27a.nonempty\ A_27a \Rightarrow (\forall V0f \in (ty_2Eextreal_2Eextreal^{A_27a}). \\
& \quad (\forall V1a \in (ty_2Epair_2Eprod\ (2^{A_27a})\ (2^{(2^{A_27a})})). ((\\
& \quad p\ (ap\ (ap\ (c_2Ebool_2EIN\ (ty_2Eextreal_2Eextreal^{A_27a})\ V0f)\ \\
& \quad (ap\ (ap\ (c_2Emeasure_2Emeasurable\ A_27a\ ty_2Eextreal_2Eextreal) \\
& \quad V1a)\ c_2Emeasure_2EBorel))) \Leftrightarrow ((p\ (ap\ (c_2Emeasure_2Esigma_algebra \\
& \quad A_27a)\ V1a)) \wedge ((p\ (ap\ (ap\ (c_2Ebool_2EIN\ (ty_2Eextreal_2Eextreal^{A_27a}) \\
& \quad V0f)\ (ap\ (ap\ (c_2Epred_set_2EFUNSET\ A_27a\ ty_2Eextreal_2Eextreal) \\
& \quad (ap\ (c_2Emeasure_2Espace\ A_27a)\ V1a))\ (c_2Epred_set_2EUNIV \\
& \quad ty_2Eextreal_2Eextreal)))) \wedge (\forall V2c \in ty_2Eextreal_2Eextreal. \\
& \quad (p\ (ap\ (ap\ (c_2Ebool_2EIN\ (2^{A_27a})\ (ap\ (ap\ (c_2Epred_set_2EINTER \\
& \quad A_27a)\ (ap\ (c_2Epred_set_2EGSPEC\ A_27a\ A_27a)\ (\lambda V3x \in A_27a. \\
& \quad (ap\ (ap\ (c_2Epair_2E_2C\ A_27a\ 2)\ V3x)\ (ap\ (ap\ c_2Eextreal_2Eextreal_lt \\
& \quad V2c)\ (ap\ V0f\ V3x))))))\ (ap\ (c_2Emeasure_2Espace\ A_27a)\ V1a)))\ (\\
& \quad ap\ (c_2Emeasure_2Esubsets\ A_27a)\ V1a))))))
\end{aligned} \tag{25}$$

Assume the following.

$$\begin{aligned} & \forall A_27a.nonempty\ A_27a \Rightarrow \forall A_27b.nonempty\ A_27b \Rightarrow (\\ & \quad \forall V0x \in A_27a. (\forall V1y \in A_27b. (\forall V2a \in A_27a. (\forall V3b \in \\ & \quad A_27b. (((ap\ (ap\ (c_2Epair_2E_2C\ A_27a\ A_27b)\ V0x)\ V1y) = (ap\ (ap \\ & \quad (c_2Epair_2E_2C\ A_27a\ A_27b)\ V2a)\ V3b)) \Leftrightarrow ((V0x = V2a) \wedge (V1y = V3b)))))) \\ & \hspace{15em} (26) \end{aligned}$$

Assume the following.

$$\begin{aligned} & \forall A_27a.nonempty\ A_27a \Rightarrow (\forall V0s \in (2^{A_27a}). (\forall V1t \in \\ & \quad (2^{A_27a}). ((V0s = V1t) \Leftrightarrow (\forall V2x \in A_27a. ((p\ (ap\ (ap\ (c_2Ebool_2EIN \\ & \quad A_27a)\ V2x)\ V0s)) \Leftrightarrow (p\ (ap\ (ap\ (c_2Ebool_2EIN\ A_27a)\ V2x)\ V1t)))))) \\ & \hspace{15em} (27) \end{aligned}$$

Assume the following.

$$\begin{aligned} & \forall A_27a.nonempty\ A_27a \Rightarrow \forall A_27b.nonempty\ A_27b \Rightarrow (\\ & \quad \forall V0f \in ((ty_2Epair_2Eprod\ A_27a\ 2)^{A_27b}). (\forall V1v \in \\ & \quad A_27a. ((p\ (ap\ (ap\ (c_2Ebool_2EIN\ A_27a)\ V1v)\ (ap\ (c_2Epred_set_2EGSPEC \\ & \quad A_27a\ A_27b)\ V0f))) \Leftrightarrow (\exists V2x \in A_27b. ((ap\ (ap\ (c_2Epair_2E_2C \\ & \quad A_27a\ 2)\ V1v)\ c_2Ebool_2ET) = (ap\ V0f\ V2x)))))) \\ & \hspace{15em} (28) \end{aligned}$$

Assume the following.

$$\begin{aligned} & \forall A_27a.nonempty\ A_27a \Rightarrow (\forall V0s \in (2^{A_27a}). (\forall V1t \in \\ & \quad (2^{A_27a}). (\forall V2x \in A_27a. ((p\ (ap\ (ap\ (c_2Ebool_2EIN\ A_27a)\ \\ & \quad V2x)\ (ap\ (ap\ (c_2Epred_set_2EINTER\ A_27a)\ V0s)\ V1t))) \Leftrightarrow ((p\ (ap \\ & \quad (ap\ (c_2Ebool_2EIN\ A_27a)\ V2x)\ V0s)) \wedge (p\ (ap\ (ap\ (c_2Ebool_2EIN \\ & \quad A_27a)\ V2x)\ V1t)))))) \\ & \hspace{15em} (29) \end{aligned}$$

Assume the following.

$$(\forall V0t \in 2. ((\neg(\neg(p\ V0t))) \Leftrightarrow (p\ V0t))) \quad (30)$$

Assume the following.

$$(\forall V0A \in 2. ((p\ V0A) \Rightarrow ((\neg(p\ V0A)) \Rightarrow False))) \quad (31)$$

Assume the following.

$$\begin{aligned} & (\forall V0A \in 2. (\forall V1B \in 2. (((\neg((p\ V0A) \vee (p\ V1B))) \Rightarrow False) \Leftrightarrow \\ & \quad ((p\ V0A) \Rightarrow False) \Rightarrow ((\neg(p\ V1B)) \Rightarrow False)))) \\ & \hspace{15em} (32) \end{aligned}$$

Assume the following.

$$\begin{aligned} & (\forall V0A \in 2. (\forall V1B \in 2. (((\neg((\neg(p\ V0A)) \vee (p\ V1B))) \Rightarrow False) \Leftrightarrow \\ & \quad ((p\ V0A) \Rightarrow ((\neg(p\ V1B)) \Rightarrow False)))) \\ & \hspace{15em} (33) \end{aligned}$$

Assume the following.

$$(\forall V0A \in 2. (((\neg(p\ V0A)) \Rightarrow False) \Rightarrow ((p\ V0A) \Rightarrow False) \Rightarrow False)) \quad (34)$$

Assume the following.

$$\begin{aligned}
& (\forall V0p \in 2. (\forall V1q \in 2. (\forall V2r \in 2. (((p V0p) \Leftrightarrow (\\
& (p V1q) \Leftrightarrow (p V2r))) \Leftrightarrow (((p V0p) \vee ((p V1q) \vee (p V2r))) \wedge (((p V0p) \vee ((\neg(\\
& p V2r)) \vee (\neg(p V1q)))) \wedge (((p V1q) \vee ((\neg(p V2r)) \vee (\neg(p V0p)))) \wedge ((p V2r) \vee \\
& ((\neg(p V1q)) \vee (\neg(p V0p))))))))))
\end{aligned} \tag{35}$$

Assume the following.

$$\begin{aligned}
& (\forall V0p \in 2. (\forall V1q \in 2. (\forall V2r \in 2. (((p V0p) \Leftrightarrow (\\
& (p V1q) \wedge (p V2r))) \Leftrightarrow (((p V0p) \vee ((\neg(p V1q)) \vee (\neg(p V2r)))) \wedge (((p V1q) \vee \\
& (\neg(p V0p))) \wedge ((p V2r) \vee (\neg(p V0p))))))
\end{aligned} \tag{36}$$

Assume the following.

$$\begin{aligned}
& (\forall V0p \in 2. (\forall V1q \in 2. (\forall V2r \in 2. (((p V0p) \Leftrightarrow (\\
& (p V1q) \vee (p V2r))) \Leftrightarrow (((p V0p) \vee (\neg(p V1q))) \wedge (((p V0p) \vee (\neg(p V2r))) \wedge \\
& ((p V1q) \vee ((p V2r) \vee (\neg(p V0p))))))
\end{aligned} \tag{37}$$

Assume the following.

$$\begin{aligned}
& (\forall V0p \in 2. (\forall V1q \in 2. (\forall V2r \in 2. (((p V0p) \Leftrightarrow (\\
& (p V1q) \Rightarrow (p V2r))) \Leftrightarrow (((p V0p) \vee (p V1q)) \wedge (((p V0p) \vee (\neg(p V2r))) \wedge ((\\
& \neg(p V1q)) \vee ((p V2r) \vee (\neg(p V0p))))))
\end{aligned} \tag{38}$$

Assume the following.

$$\begin{aligned}
& (\forall V0p \in 2. (\forall V1q \in 2. (((p V0p) \Leftrightarrow (\neg(p V1q))) \Leftrightarrow (((p V0p) \vee \\
& (p V1q)) \wedge ((\neg(p V1q)) \vee (\neg(p V0p))))))
\end{aligned} \tag{39}$$

Assume the following.

$$(\forall V0p \in 2. (\forall V1q \in 2. ((\neg((p V0p) \Rightarrow (p V1q))) \Rightarrow (p V0p))) \tag{40}$$

Assume the following.

$$(\forall V0p \in 2. (\forall V1q \in 2. ((\neg((p V0p) \Rightarrow (p V1q))) \Rightarrow (\neg(p V1q)))) \tag{41}$$

Assume the following.

$$(\forall V0p \in 2. (\forall V1q \in 2. ((\neg((p V0p) \vee (p V1q))) \Rightarrow (\neg(p V0p)))) \tag{42}$$

Assume the following.

$$(\forall V0p \in 2. (\forall V1q \in 2. ((\neg((p V0p) \vee (p V1q))) \Rightarrow (\neg(p V1q)))) \tag{43}$$

Assume the following.

$$(\forall V0p \in 2. ((\neg(\neg(p V0p))) \Rightarrow (p V0p))) \tag{44}$$

Theorem 1

$$\begin{aligned}
& \forall A_27a.nonempty\ A_27a \Rightarrow (\forall V0f \in (ty_2Eextreal_2Eextreal^{A_27a}). \\
& \quad (\forall V1a \in (ty_2Epair_2Eprod\ (2^{A_27a})\ (2^{(2^{A_27a})}))). ((\\
& \quad p\ (ap\ (ap\ (c_2Ebool_2EIN\ (ty_2Eextreal_2Eextreal^{A_27a}))\ V0f) \\
& \quad (ap\ (ap\ (c_2Emeasure_2Emeasurable\ A_27a\ ty_2Eextreal_2Eextreal) \\
& \quad V1a)\ c_2Emeasure_2EBorel))) \Rightarrow ((p\ (ap\ (c_2Emeasure_2Esigma_algebra \\
& \quad A_27a)\ V1a)) \wedge ((p\ (ap\ (ap\ (c_2Ebool_2EIN\ (ty_2Eextreal_2Eextreal^{A_27a})) \\
& \quad V0f)\ (ap\ (ap\ (c_2Epred_set_2EFUNSET\ A_27a\ ty_2Eextreal_2Eextreal) \\
& \quad (ap\ (c_2Emeasure_2Espace\ A_27a)\ V1a))\ (c_2Epred_set_2EUNIV \\
& \quad ty_2Eextreal_2Eextreal)))) \wedge (\forall V2c \in ty_2Eextreal_2Eextreal. \\
& \quad (\forall V3d \in ty_2Eextreal_2Eextreal. (p\ (ap\ (ap\ (c_2Ebool_2EIN \\
& \quad (2^{A_27a}))\ (ap\ (ap\ (c_2Epred_set_2EINTER\ A_27a)\ (ap\ (c_2Epred_set_2EGSPEC \\
& \quad A_27a\ A_27a)\ (\lambda V4x \in A_27a. (ap\ (ap\ (c_2Epair_2E_2C\ A_27a\ 2) \\
& \quad V4x)\ (ap\ (ap\ c_2Ebool_2E_2F_5C\ (ap\ (ap\ c_2Eextreal_2Eextreal_lt \\
& \quad V2c)\ (ap\ V0f\ V4x)))\ (ap\ (ap\ c_2Eextreal_2Eextreal_lt\ (ap\ V0f\ V4x)) \\
& \quad V3d))))))\ (ap\ (c_2Emeasure_2Espace\ A_27a)\ V1a)))\ (ap\ (c_2Emeasure_2Esubsets \\
& \quad A_27a)\ V1a)))))))))
\end{aligned}$$