thm_2Elebesgue_2Epsfis__present (TMHwSWX4diFXDKQv6t27v99XtBjM4i9hiyn)

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Definition 1 *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 2 *We define* c_2Ebool_2ET *to be* $(ap\ (ap\ (c\_2Emin\_2E\_3D\ (2^2))\ (\lambda V0x \in 2.V0x))\ (\lambda V1x \in 2.V1$

Definition 3 *We define* c_2Ebool_2E_21 *to be* $\lambda A\_27a : \iota.(\lambda V0P \in (2^{A\_27a}).(ap\ (ap\ (c\_2Emin\_2E\_3D\ (2^{A\_27}$

Definition 4 *We define* c_2Ebool_2EF *to be* $(ap\ (c\_2Ebool\_2E\_21\ 2)\ (\lambda V0t \in 2.V0t))$.

Let $ty\_2Erealax\_2Ereal : \iota$ be given. Assume the following.

$$nonempty\ ty\_2Erealax\_2Ereal \tag{1}$$

Let $ty\_2Epair\_2Eprod : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall A0.nonempty\ A0 \Rightarrow \forall A1.nonempty\ A1 \Rightarrow nonempty\ (ty\_2Epair\_2Eprod\ A0\ A1) \tag{2}$$

Let $c\_2Emeasure\_2Em\_\_space : \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall A\_27a.nonempty\ A\_27a \Rightarrow c\_2Emeasure\_2Em\_\_space\ A\_27a \in ((2^{A\_27a})^{(ty\_2Epair\_2Eprod\ (2^{A\_27a})\ (ty\_2Epair\_2Eprod\ (2^{(2^{A\_27a})})\ (ty\_2Erealax\_2Ereal^{(2^{A\_27a})})))}) \tag{3}$$

Let $ty\_2Enum\_2Enum : \iota$ be given. Assume the following.

$$nonempty\ ty\_2Enum\_2Enum \tag{4}$$

Definition 5 *We define* c_2Ebool_2EIN *to be* $\lambda A\_27a : \iota.(\lambda V0x \in A\_27a.(\lambda V1f \in (2^{A\_27a}).(ap\ V1f\ V0x)))$

Definition 6 *We define* c_2Emin_2E_3D_3D_3E *to be* $\lambda P \in 2.\lambda Q \in 2.inj\_o\ (p\ P \Rightarrow p\ Q)$ *of type* ι.

Definition 7 *We define* c_2Ebool_2E_2F_5C *to be* $(\lambda V0t1 \in 2.(\lambda V1t2 \in 2.(ap\ (c\_2Ebool\_2E\_21\ 2)\ (\lambda V2t \in 2$

Let $c\_2Epair\_2EABS\_\_prod : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall A\_27a.nonempty\ A\_27a \Rightarrow \forall A\_27b.nonempty\ A\_27b \Rightarrow c\_2Epair\_2EABS\_\_prod\ A\_27a\ A\_27b \in ((ty\_2Epair\_2Eprod\ A\_27a\ A\_27b)^{((2^{A\_27b})^{A\_27a})}) \tag{5}$$

Definition 8 *We define* c_2Epair_2E_2C *to be* $\lambda A\_27a : \iota.\lambda A\_27b : \iota.\lambda V0x \in A\_27a.\lambda V1y \in A\_27b.(ap\ (c\_2E$

Let $c\_2Epred\_\_set\_2EGSPEC : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall A\_27a.nonempty\ A\_27a \Rightarrow \forall A\_27b.nonempty\ A\_27b \Rightarrow c\_2Epred\_\_set\_2EGSPEC\ A\_27a\ A\_27b \in ((2^{A\_27a})^{((ty\_2Epair\_2Eprod\ A\_27a\ 2)^{A\_27b})}) \tag{6}$$

Definition 9 *We define* c_2Epred__set_2EIMAGE *to be* $\lambda A\_27a : \iota.\lambda A\_27b : \iota.\lambda V0f \in (A\_27b^{A\_27a}).\lambda V1s \in ($

Definition 10 *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** $(the\ (\lambda x.x \in A \wedge$ *of type* $\iota \Rightarrow \iota$.

Definition 11 *We define* c_2Ebool_2E_3F *to be* $\lambda A\_27a : \iota.(\lambda V0P \in (2^{A\_27a}).(ap\ V0P\ (ap$ (c_2Emin_2E_40

Definition 12 *We define* c_2Epred__set_2EBIGUNION *to be* $\lambda A\_27a : \iota.\lambda V0P \in (2^{(2^{A\_27a})}).(ap\ (c\_2Epred\_\_s$

Definition 13 *We define* c_2Epred__set_2EEMPTY *to be* $\lambda A_27a : \iota.(\lambda V0x \in A_27a.c_2Ebool_2EF)$.

Definition 14 *We define* c_2Epred__set_2EINTER *to be* $\lambda A\_27a : \iota.\lambda V0s \in (2^{A\_27a}).\lambda V1t \in (2^{A\_27a}).(ap\ (c\_$

Definition 15 *We define* c_2Epred__set_2EDISJOINT *to be* $\lambda A\_27a : \iota.\lambda V0s \in (2^{A\_27a}).\lambda V1t \in (2^{A\_27a}).(ap$

Definition 16 *We define* c_2Ebool_2E_7E *to be* $(\lambda V0t \in 2.(ap\ (ap$ c_2Emin_2E_3D_3D_3E $V0t)$ c_2Ebool_2E

Let $c\_2Enum\_2EZERO\_\_REP : \iota$ be given. Assume the following.

$$c\_2Enum\_2EZERO\_\_REP \in omega \tag{7}$$

Let $c\_2Enum\_2EABS\_\_num : \iota$ be given. Assume the following.

$$c\_2Enum\_2EABS\_\_num \in (ty\_2Enum\_2Enum^{omega}) \tag{8}$$

Definition 17 *We define* c_2Enum_2E0 *to be* $(ap\ c\_2Enum\_2EABS\_\_num\ c\_2Enum\_2EZERO\_\_REP)$.

Let $c\_2Ereal\_2Ereal\_\_of\_\_num : \iota$ be given. Assume the following.

$$c\_2Ereal\_2Ereal\_\_of\_\_num \in (ty\_2Erealax\_2Ereal^{ty\_2Enum\_2Enum}) \tag{9}$$

Let $ty\_2Ehreal\_2Ehreal : \iota$ be given. Assume the following.

$$nonempty\ ty\_2Ehreal\_2Ehreal \tag{10}$$

Let $c\_2Erealax\_2Ereal\_\_REP\_\_CLASS : \iota$ be given. Assume the following.

$$c\_2Erealax\_2Ereal\_\_REP\_\_CLASS \in ((2^{(ty\_2Epair\_2Eprod\ ty\_2Ehreal\_2Ehreal\ ty\_2Ehreal\_2Ehreal)})^{ty\_2Erealax} \tag{11}$$

Definition 18 *We define* c_2Erealax_2Ereal__REP *to be* $\lambda V0a \in ty\_2Erealax\_2Ereal.(ap$ (c_2Emin_2E_40 (t

Let $c\_2Erealax\_2Etreal\_\_lt : \iota$ be given. Assume the following.

$$c\_2Erealax\_2Etreal\_\_lt \in ((2^{(ty\_2Epair\_2Eprod\ ty\_2Ehreal\_2Ehreal\ ty\_2Ehreal\_2Ehreal)})^{(ty\_2Epair\_2Eprod\ ty\_2Ehr} \tag{12}$$

Definition 19 *We define* c_2Erealax_2Ereal__lt *to be* $\lambda V0T1 \in ty\_2Erealax\_2Ereal.\lambda V1T2 \in ty\_2Erealax\_$

Definition 20 *We define* c_2Ereal_2Ereal__lte *to be* $\lambda V0x \in ty\_2Erealax\_2Ereal.\lambda V1y \in ty\_2Erealax\_2Er$

Definition 21 *We define* c_2Ebool_2E_5C_2F *to be* $(\lambda V0t1 \in 2.(\lambda V1t2 \in 2.(ap$ (c_2Ebool_2E_21 2) $(\lambda V2t \in$

Definition 22 *We define* c_2Epred__set_2EINSERT *to be* $\lambda A\_27a : \iota.\lambda V0x \in A\_27a.\lambda V1s \in (2^{A\_27a}).(ap$ (c_

Definition 23 *We define* c_2Epred__set_2EFINITE *to be* $\lambda A\_27a : \iota.\lambda V0s \in (2^{A\_27a}).(ap$ (c_2Ebool_2E_21 (2

Let $c\_2Emeasure\_2Emeasurable\_\_sets : \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall A\_27a.nonempty\ A\_27a \Rightarrow c\_2Emeasure\_2Emeasurable\_\_sets$$
$$A\_27a \in ((2^{(2^{A\_27a})})^{(ty\_2Epair\_2Eprod\ (2^{A\_27a})\ (ty\_2Epair\_2Eprod\ (2^{(2^{A\_27a})})\ (ty\_2Erealax\_2Ereal^{(2^{A\_27a})}))))}) \tag{13}$$

Let $ty\_2Eextreal\_2Eextreal : \iota$ be given. Assume the following.

$$nonempty\ ty\_2Eextreal\_2Eextreal \tag{14}$$

Let $c\_2Eextreal\_2ENormal : \iota$ be given. Assume the following.

$$c\_2Eextreal\_2ENormal \in (ty\_2Eextreal\_2Eextreal^{ty\_2Erealax\_2Ereal}) \tag{15}$$

Definition 24 *We define* c_2Eextreal_2Eextreal__of__num *to be* $\lambda V0n \in ty\_2Enum\_2Enum.(ap\ c\_2Eextreal$

Definition 25 *We define* c_2Earithmetic_2EZERO *to be* c_2Enum_2E0.

Let $c\_2Enum\_2EREP\_\_num : \iota$ be given. Assume the following.

$$c\_2Enum\_2EREP\_\_num \in (omega^{ty\_2Enum\_2Enum}) \tag{16}$$

Let $c\_2Enum\_2ESUC\_\_REP : \iota$ be given. Assume the following.

$$c\_2Enum\_2ESUC\_\_REP \in (omega^{omega}) \tag{17}$$

Definition 26 *We define* c_2Enum_2ESUC *to be* $\lambda V0m \in ty\_2Enum\_2Enum.(ap\ c\_2Enum\_2EABS\_\_num$

Let $c\_2Earithmetic\_2E\_2B : \iota$ be given. Assume the following.

$$c\_2Earithmetic\_2E\_2B \in ((ty\_2Enum\_2Enum^{ty\_2Enum\_2Enum})^{ty\_2Enum\_2Enum}) \tag{18}$$

Definition 27 *We define* c_2Earithmetic_2EBIT1 *to be* $\lambda V0n \in ty\_2Enum\_2Enum.(ap\ (ap\ c\_2Earithmetic$

Definition 28 *We define* c_2Earithmetic_2ENUMERAL *to be* $\lambda V0x \in ty\_2Enum\_2Enum.V0x.$

Definition 29 *We define* c_2Ebool_2ECOND *to be* $\lambda A\_27a : \iota.(\lambda V0t \in 2.(\lambda V1t1 \in A\_27a.(\lambda V2t2 \in A\_27a.($

Definition 30 *We define* c_2Emeasure_2Eindicator__fn *to be* $\lambda A\_27a : \iota.\lambda V0s \in (2^{A\_27a}).(\lambda V1x \in A\_27a.(ap$

Let $c\_2Eextreal\_2Eextreal\_\_mul : \iota$ be given. Assume the following.

$$c\_2Eextreal\_2Eextreal\_\_mul \in ((ty\_2Eextreal\_2Eextreal^{ty\_2Eextreal\_2Eextreal})^{ty\_2Eextreal\_2Eextreal}) \tag{19}$$

Let $c\_2Eextreal\_2Eextreal\_\_add : \iota$ be given. Assume the following.

$$c\_2Eextreal\_2Eextreal\_\_add \in ((ty\_2Eextreal\_2Eextreal^{ty\_2Eextreal\_2Eextreal})^{ty\_2Eextreal\_2Eextreal}) \tag{20}$$

Let $c\_2Epred\_\_set\_2EITSET : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall A\_27a.nonempty\ A\_27a \Rightarrow \forall A\_27b.nonempty\ A\_27b \Rightarrow c\_2Epred\_\_set\_2EITSET\ A\_27a\ A\_27b \in (((A\_27b^{A\_27b})^{(2^{A\_27a})})^{((A\_27b^{A\_27b})^{A\_27a})}) \tag{21}$$

Definition 31 *We define* c_2Eextreal_2EEXTREAL__SUM__IMAGE *to be* $\lambda A\_27a : \iota.\lambda V0f \in (ty\_2Eextreal\_2$

Let $c\_2Eextreal\_2Eextreal\_\_le : \iota$ be given. Assume the following.

$$c\_2Eextreal\_2Eextreal\_\_le \in ((2^{ty\_2Eextreal\_2Eextreal})^{ty\_2Eextreal\_2Eextreal}) \tag{22}$$

Definition 32 *We define* c_2Emeasure_2Epos__simple__fn *to be* $\lambda A\_27a : \iota.\lambda V0m \in (ty\_2Epair\_2Eprod\ (2^{A\text{-}}$

Let $c\_2Epair\_2ESND : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall A\_27a.nonempty\ A\_27a \Rightarrow \forall A\_27b.nonempty\ A\_27b \Rightarrow c\_2Epair\_2ESND\ A\_27a\ A\_27b \in (A\_27b^{(ty\_2Epair\_2Eprod\ A\_27a\ A\_27b)}) \tag{23}$$

Let $c\_2Epair\_2EFST : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall A\_27a.nonempty\ A\_27a \Rightarrow \forall A\_27b.nonempty\ A\_27b \Rightarrow c\_2Epair\_2EFST\ A\_27a\ A\_27b \in (A\_27a^{(ty\_2Epair\_2Eprod\ A\_27a\ A\_27b)}) \tag{24}$$

Definition 33 *We define* c_2Epair_2EUNCURRY *to be* $\lambda A\_27a : \iota.\lambda A\_27b : \iota.\lambda A\_27c : \iota.\lambda V0f \in ((A\_27c^{A\_27}$

Definition 34 *We define* c_2Elebesgue_2Epsfs *to be* $\lambda A\_27a : \iota.\lambda V0m \in (ty\_2Epair\_2Eprod\ (2^{A\_27a})\ (ty\_2I$

Let $c\_2Emeasure\_2Emeasure : \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall A\_27a.nonempty\ A\_27a \Rightarrow c\_2Emeasure\_2Emeasure\ A\_27a \in ((ty\_2Erealax\_2Ereal^{(2^{A\_27a})})^{(ty\_2Epair\_2Eprod\ (2^{A\_27a})\ (ty\_2Epair\_2Eprod\ (2^{(2^{A\_27a})})\ (ty\_2Erealax\_2Ereal^{(2^{A\_27a})})} \tag{25}$$

Let $c\_2Erealax\_2Etreal\_\_mul : \iota$ be given. Assume the following.

$$c\_2Erealax\_2Etreal\_\_mul \in (((ty\_2Epair\_2Eprod\ ty\_2Ehreal\_2Ehreal\ ty\_2Ehreal\_2Ehreal)^{(ty\_2Epair\_2Eprod\ ty\_2Ehreal\_2Ehreal\ ty\_2Ehreal\_2Ehreal)})^{(ty\_2Epair\_2Eprod\ ty\_2Ehreal\_2Ehr} \tag{26}$$

Let $c\_2Erealax\_2Etreal\_\_eq : \iota$ be given. Assume the following.

$$c\_2Erealax\_2Etreal\_\_eq \in ((2^{(ty\_2Epair\_2Eprod\ ty\_2Ehreal\_2Ehreal\ ty\_2Ehreal\_2Ehreal)})^{(ty\_2Epair\_2Eprod\ ty\_2Eh} \tag{27}$$

Let $c\_2Erealax\_2Ereal\_\_ABS\_\_CLASS : \iota$ be given. Assume the following.

$$c\_2Erealax\_2Ereal\_\_ABS\_\_CLASS \in (ty\_2Erealax\_2Ereal^{(2^{(ty\_2Epair\_2Eprod\ ty\_2Ehreal\_2Ehreal\ ty\_2Ehreal\_2Ehr} \tag{28}$$

Definition 35 *We define* c_2Erealax_2Ereal__ABS *to be* $\lambda V0r \in (ty\_2Epair\_2Eprod\ ty\_2Ehreal\_2Ehreal\ ty$

Definition 36 *We define* c_2Erealax_2Ereal__mul *to be* $\lambda V0T1 \in ty\_2Erealax\_2Ereal.\lambda V1T2 \in ty\_2Ereala$

Let $c\_2Erealax\_2Etreal\_\_add : \iota$ be given. Assume the following.

$$c\_2Erealax\_2Etreal\_\_add \in (((ty\_2Epair\_2Eprod\ ty\_2Ehreal\_2Ehreal\ ty\_2Ehreal\_2Ehreal)^{(ty\_2Epair\_2Eprod\ ty\_2Ehreal\_2Ehreal\ ty\_2Ehreal\_2Ehreal)})^{(ty\_2Epair\_2Eprod\ ty\_2Ehreal\_2Ehr} \tag{29}$$

Definition 37 *We define* c_2Erealax_2Ereal__add *to be* $\lambda V0T1 \in ty\_2Erealax\_2Ereal.\lambda V1T2 \in ty\_2Ereala$

Definition 38 *We define* c_2Ereal__sigma_2EREAL__SUM__IMAGE *to be* $\lambda A\_27a : \iota.\lambda V0f \in (ty\_2Erealax\_2$

Definition 39 *We define* c_2Elebesgue_2Epos__simple__fn__integral *to be* $\lambda A\_27a : \iota.\lambda V0m \in (ty\_2Epair\_2E$

Definition 40 *We define* c_2Elebesgue_2Epsfis *to be* $\lambda A\_27a : \iota.\lambda V0m \in (ty\_2Epair\_2Eprod\ (2^{A\_27a})\ (ty\_2$

Definition 41 *We define* c_2Epred__set_2EUNIV *to be* $\lambda A_27a : \iota.(\lambda V0x \in A_27a.c_2Ebool_2ET)$.

Definition 42 *We define* c_2Ecombin_2Eo *to be* $\lambda A\_27a : \iota.\lambda A\_27b : \iota.\lambda A\_27c : \iota.\lambda V0f \in (A\_27b^{A\_27c}).\lambda V1$

Let $c\_2Ereal\_2Esum : \iota$ be given. Assume the following.

$$c\_2Ereal\_2Esum \in ((ty\_2Erealax\_2Ereal^{(ty\_2Erealax\_2Ereal^{ty\_2Enum\_2Enum})})^{(ty\_2Epair\_2Eprod\ ty\_2Enum\_2En} \tag{30}$$

Definition 43 *We define* c_2Eprim__rec_2E_3C *to be* $\lambda V0m \in ty\_2Enum\_2Enum.\lambda V1n \in ty\_2Enum\_2Enu$

Definition 44 *We define* c_2Earithmetic_2E_3E *to be* $\lambda V0m \in ty\_2Enum\_2Enum.\lambda V1n \in ty\_2Enum\_2En$

Definition 45 *We define* c_2Earithmetic_2E_3E_3D *to be* $\lambda V0m \in ty\_2Enum\_2Enum.\lambda V1n \in ty\_2Enum\_2$

Let $c\_2Erealax\_2Etreal\_\_neg : \iota$ be given. Assume the following.

$$c\_2Erealax\_2Etreal\_\_neg \in ((ty\_2Epair\_2Eprod\ ty\_2Ehreal\_2Ehreal\ ty\_2Ehreal\_2Ehreal)^{(ty\_2Epair\_2Eprod\ ty\_2Ehreal\_2Ehreal\ ty\_2Ehreal\_2Ehreal)}) \tag{31}$$

Definition 46 *We define* c_2Erealax_2Ereal__neg *to be* $\lambda V0T1 \in ty\_2Erealax\_2Ereal.(ap$ c_2Erealax_2Ereal

Definition 47 *We define* c_2Ereal_2Ereal__sub *to be* $\lambda V0x \in ty\_2Erealax\_2Ereal.\lambda V1y \in ty\_2Erealax\_2E$

Definition 48 *We define* c_2Ereal_2Eabs *to be* $\lambda V0x \in ty\_2Erealax\_2Ereal.(ap\ (ap\ (ap$ (c_2Ebool_2ECON

Let $ty\_2Emetric\_2Emetric : \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall A0.nonempty\ A0 \Rightarrow nonempty\ (ty\_2Emetric\_2Emetric\ A0) \quad (32)$$

Let $c\_2Emetric\_2Emetric : \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall A\_27a.nonempty\ A\_27a \Rightarrow c\_2Emetric\_2Emetric\ A\_27a \in ((ty\_2Emetric\_2Emetric\ A\_27a)^{(ty\_2Erealax\_2Ereal^{(ty\_2Epair\_2Eprod\ A\_27a\ A\_27a)})}) \quad (33)$$

Definition 49 *We define* c_2Emetric_2Emr1 *to be* $(ap\ (c\_2Emetric\_2Emetric\ ty\_2Erealax\_2Ereal)\ (ap$ (c

Let $c\_2Emetric\_2Edist : \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall A\_27a.nonempty\ A\_27a \Rightarrow c\_2Emetric\_2Edist\ A\_27a \in ((ty\_2Erealax\_2Ereal^{(ty\_2Epair\_2Eprod\ A\_27a\ A\_27}$$

(34)

Let $ty\_2Etopology\_2Etopology : \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall A0.nonempty\ A0 \Rightarrow nonempty\ (ty\_2Etopology\_2Etopology\ A0) \quad (35)$$

Let $c\_2Etopology\_2Etopology : \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall A\_27a.nonempty\ A\_27a \Rightarrow c\_2Etopology\_2Etopology\ A\_27a \in ((ty\_2Etopology\_2Etopology\ A\_27a)^{(2^{(2^{A\_27a})})}) \quad (36)$$

Definition 50 *We define* c_2Emetric_2Emtop *to be* $\lambda A\_27a : \iota.\lambda V0m \in (ty\_2Emetric\_2Emetric\ A\_27a).(ap$

Let $c\_2Enets\_2Etends : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall A\_27a.nonempty\ A\_27a \Rightarrow \forall A\_27b.nonempty\ A\_27b \Rightarrow c\_2Enets\_2Etends\ A\_27a\ A\_27b \in (((2^{(ty\_2Epair\_2Eprod\ (ty\_2Etopology\_2Etopology\ A\_27a)\ ((2^{A\_27b})^{A\_27b}))})^{A\_27a})^{(A\_27a^{A\_27b})}) \quad (37)$$

Definition 51 *We define* c_2Eseq_2E_2D_2D_3E *to be* $\lambda V0x \in (ty\_2Erealax\_2Ereal^{ty\_2Enum\_2Enum}).\lambda V1x$

Definition 52 *We define* c_2Eseq_2Esums *to be* $\lambda V0f \in (ty\_2Erealax\_2Ereal^{ty\_2Enum\_2Enum}).\lambda V1s \in ty$

Definition 53 *We define* c_2Epred__set_2EFUNSET *to be* $\lambda A\_27a : \iota.\lambda A\_27b : \iota.\lambda V0P \in (2^{A\_27a}).\lambda V1Q \in ($

Definition 54 *We define* c_2Emeasure_2Ecountably__additive *to be* $\lambda A\_27a : \iota.\lambda V0m \in (ty\_2Epair\_2Eprod$

Definition 55 *We define* c_2Emeasure_2Epositive *to be* $\lambda A\_27a : \iota.\lambda V0m \in (ty\_2Epair\_2Eprod\ (2^{A\_27a})\ (t$

Let $c\_2Emeasure\_2Esubsets : \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall A\_27a.nonempty\ A\_27a \Rightarrow c\_2Emeasure\_2Esubsets\ A\_27a \in ((2^{(2^{A\_27a})})^{(ty\_2Epair\_2Eprod\ (2^{A\_27a})\ (2^{(2^{A\_27a})}))}) \tag{38}$$

Definition 56 *We define* c_2Epred__set_2ESUBSET *to be* $\lambda A\_27a : \iota.\lambda V0s \in (2^{A\_27a}).\lambda V1t \in (2^{A\_27a}).(ap\ ($

Definition 57 *We define* c_2Epred__set_2EINJ *to be* $\lambda A\_27a : \iota.\lambda A\_27b : \iota.\lambda V0f \in (A\_27b^{A\_27a}).\lambda V1s \in (2^{A}$

Definition 58 *We define* c_2Epred__set_2Ecountable *to be* $\lambda A\_27a : \iota.\lambda V0s \in (2^{A\_27a}).(ap$ (c_2Ebool_2E_3F

Definition 59 *We define* c_2Epred__set_2EUNION *to be* $\lambda A\_27a : \iota.\lambda V0s \in (2^{A\_27a}).\lambda V1t \in (2^{A\_27a}).(ap\ (c.$

Let $c\_2Emeasure\_2Espace : \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall A\_27a.nonempty\ A\_27a \Rightarrow c\_2Emeasure\_2Espace\ A\_27a \in ((2^{A\_27a})^{(ty\_2Epair\_2Eprod\ (2^{A\_27a})\ (2^{(2^{A\_27a})}))}) \tag{39}$$

Definition 60 *We define* c_2Epred__set_2EDIFF *to be* $\lambda A\_27a : \iota.\lambda V0s \in (2^{A\_27a}).\lambda V1t \in (2^{A\_27a}).(ap\ (c\_2$

Definition 61 *We define* c_2Emeasure_2Esubset__class *to be* $\lambda A\_27a : \iota.\lambda V0sp \in (2^{A\_27a}).\lambda V1sts \in (2^{(2^{A\_27}}$

Definition 62 *We define* c_2Emeasure_2Ealgebra *to be* $\lambda A\_27a : \iota.\lambda V0a \in (ty\_2Epair\_2Eprod\ (2^{A\_27a})\ (2^{(2}$

Definition 63 *We define* c_2Emeasure_2Esigma__algebra *to be* $\lambda A\_27a : \iota.\lambda V0a \in (ty\_2Epair\_2Eprod\ (2^{A\_2}$

Definition 64 *We define* c_2Emeasure_2Emeasure__space *to be* $\lambda A\_27a : \iota.\lambda V0m \in (ty\_2Epair\_2Eprod\ (2^{A}$

Assume the following.

$$(\forall V0t \in 2.(False \Rightarrow (p\ V0t))) \tag{40}$$

Assume the following.

$$(\forall V0t \in 2.((\neg(p\ V0t)) \Rightarrow ((p\ V0t) \Rightarrow False))) \tag{41}$$

Assume the following.

$$\forall A\_27a.nonempty\ A\_27a \Rightarrow (\forall V0x \in A\_27a.(\forall V1y \in A\_27a.((V0x = V1y) \Leftrightarrow (V1y = V0x)))) \tag{42}$$

Assume the following.

$$(\forall V0t \in 2.(((True \Leftrightarrow (p\ V0t)) \Leftrightarrow (p\ V0t)) \wedge ((((p\ V0t) \Leftrightarrow True) \Leftrightarrow (p\ V0t)) \wedge (((False \Leftrightarrow (p\ V0t)) \Leftrightarrow (\neg(p\ V0t))) \wedge (((p\ V0t) \Leftrightarrow False) \Leftrightarrow (\neg(p\ V0t))))))) \tag{43}$$

Assume the following.

$$(\forall V0t1 \in 2.(\forall V1t2 \in 2.(\forall V2t3 \in 2.(((p\ V0t1) \Rightarrow ((p\ V1t2) \Rightarrow (p\ V2t3))) \Leftrightarrow (((p\ V0t1) \wedge (p\ V1t2)) \Rightarrow (p\ V2t3)))))) \tag{44}$$

Assume the following.

$$(\forall V0x \in 2.(\forall V1x\_27 \in 2.(\forall V2y \in 2.(\forall V3y\_27 \in 2.((((p\ V0x) \Leftrightarrow (p\ V1x\_27)) \wedge ((p\ V1x\_27) \Rightarrow ((p\ V2y) \Leftrightarrow (p\ V3y\_27)))) \Rightarrow (((p\ V0x) \Rightarrow (p\ V2y)) \Leftrightarrow ((p\ V1x\_27) \Rightarrow (p\ V3y\_27)))))))) \tag{45}$$

Assume the following.

$$
\begin{gathered}
\forall \mathit{A\_27a}.\mathit{nonempty}\ \mathit{A\_27a}{\Rightarrow}(\forall \mathit{V0m} \in (\mathit{ty\_2Epair\_2Eprod} \\
(2^{\mathit{A\_27a}})\ (\mathit{ty\_2Epair\_2Eprod}\ (2^{(2^{\mathit{A\_27a}})})\ (\mathit{ty\_2Erealax\_2Ereal}^{(2^{\mathit{A\_27a}})}))). \\
(\forall \mathit{V1f} \in (\mathit{ty\_2Eextreal\_2Eextreal}^{\mathit{A\_27a}}).(\forall \mathit{V2s} \in (\\
2^{\mathit{ty\_2Enum\_2Enum}}).(\forall \mathit{V3a} \in ((2^{\mathit{A\_27a}})^{\mathit{ty\_2Enum\_2Enum}}). \\
(\forall \mathit{V4x} \in (\mathit{ty\_2Erealax\_2Ereal}^{\mathit{ty\_2Enum\_2Enum}}).(\forall \mathit{V5g} \in \\
(\mathit{ty\_2Eextreal\_2Eextreal}^{\mathit{A\_27a}}).(\forall \mathit{V6s\_27} \in (2^{\mathit{ty\_2Enum\_2Enum}}). \\
(\forall \mathit{V7b} \in ((2^{\mathit{A\_27a}})^{\mathit{ty\_2Enum\_2Enum}}).(\forall \mathit{V8y} \in (\mathit{ty\_2Erealax\_2Ereal}^{\mathit{ty\_2Enum\_2Enum}}). \\
(((p\ (\mathit{ap}\ (\mathsf{c\_2Emeasure\_2Emeasure\_\_space}\ \mathit{A\_27a})\ \mathit{V0m}))\wedge((p\ (\mathit{ap}\ (\\
\mathit{ap}\ (\mathit{ap}\ (\mathit{ap}\ (\mathit{ap}\ (\mathsf{c\_2Emeasure\_2Epos\_\_simple\_\_fn}\ \mathit{A\_27a})\ \mathit{V0m})\ \mathit{V1f}) \\
\mathit{V2s})\ \mathit{V3a})\ \mathit{V4x}))\wedge(p\ (\mathit{ap}\ (\mathit{ap}\ (\mathit{ap}\ (\mathit{ap}\ (\mathit{ap}\ (\mathsf{c\_2Emeasure\_2Epos\_\_simple\_\_fn} \\
\mathit{A\_27a})\ \mathit{V0m})\ \mathit{V5g})\ \mathit{V6s\_27})\ \mathit{V7b})\ \mathit{V8y}))))){\Rightarrow}(\exists \mathit{V9z} \in (\mathit{ty\_2Erealax\_2Ereal}^{\mathit{ty\_2Enum\_2Enum}}). \\
(\exists \mathit{V10z\_27} \in (\mathit{ty\_2Erealax\_2Ereal}^{\mathit{ty\_2Enum\_2Enum}}).(\exists \mathit{V11c} \in \\
((2^{\mathit{A\_27a}})^{\mathit{ty\_2Enum\_2Enum}}).(\exists \mathit{V12k} \in (2^{\mathit{ty\_2Enum\_2Enum}}). \\
((\forall \mathit{V13t} \in \mathit{A\_27a}.((p\ (\mathit{ap}\ (\mathit{ap}\ (\mathsf{c\_2Ebool\_2EIN}\ \mathit{A\_27a})\ \mathit{V13t})\ (\\
\mathit{ap}\ (\mathit{c\_2Emeasure\_2Em\_\_space}\ \mathit{A\_27a})\ \mathit{V0m}))){\Rightarrow}((\mathit{ap}\ \mathit{V1f}\ \mathit{V13t}) = (\mathit{ap}\ (\\
\mathit{ap}\ (\mathsf{c\_2Eextreal\_2EEXTREAL\_\_SUM\_\_IMAGE}\ \mathit{ty\_2Enum\_2Enum})\ (\lambda \mathit{V14i} \in \\
\mathit{ty\_2Enum\_2Enum}.(\mathit{ap}\ (\mathit{ap}\ \mathit{c\_2Eextreal\_2Eextreal\_\_mul}\ (\mathit{ap}\ \mathit{c\_2Eextreal\_2ENormal} \\
(\mathit{ap}\ \mathit{V9z}\ \mathit{V14i})))\ (\mathit{ap}\ (\mathit{ap}\ (\mathsf{c\_2Emeasure\_2Eindicator\_\_fn}\ \mathit{A\_27a})\ (\mathit{ap} \\
\mathit{V11c}\ \mathit{V14i}))\ \mathit{V13t}))))\ \mathit{V12k}))))\wedge((\forall \mathit{V15t} \in \mathit{A\_27a}.((p\ (\mathit{ap}\ (\mathit{ap} \\
(\mathsf{c\_2Ebool\_2EIN}\ \mathit{A\_27a})\ \mathit{V15t})\ (\mathit{ap}\ (\mathit{c\_2Emeasure\_2Em\_\_space}\ \mathit{A\_27a}) \\
\mathit{V0m}))){\Rightarrow}((\mathit{ap}\ \mathit{V5g}\ \mathit{V15t}) = (\mathit{ap}\ (\mathit{ap}\ (\mathsf{c\_2Eextreal\_2EEXTREAL\_\_SUM\_\_IMAGE} \\
\mathit{ty\_2Enum\_2Enum})\ (\lambda \mathit{V16i} \in \mathit{ty\_2Enum\_2Enum}.(\mathit{ap}\ (\mathit{ap}\ \mathit{c\_2Eextreal\_2Eextreal\_\_mul} \\
(\mathit{ap}\ \mathit{c\_2Eextreal\_2ENormal}\ (\mathit{ap}\ \mathit{V10z\_27}\ \mathit{V16i})))\ (\mathit{ap}\ (\mathit{ap}\ (\mathsf{c\_2Emeasure\_2Eindicator\_\_fn} \\
\mathit{A\_27a})\ (\mathit{ap}\ \mathit{V11c}\ \mathit{V16i}))\ \mathit{V15t}))))\ \mathit{V12k}))))\wedge(((\mathit{ap}\ (\mathit{ap}\ (\mathit{ap}\ (\mathit{ap}\ (\mathsf{c\_2Elebesgue\_2Epos\_\_simple\_\_fn\_\_integral} \\
\mathit{A\_27a})\ \mathit{V0m})\ \mathit{V2s})\ \mathit{V3a})\ \mathit{V4x}) = (\mathit{ap}\ (\mathit{ap}\ (\mathit{ap}\ (\mathit{ap}\ (\mathsf{c\_2Elebesgue\_2Epos\_\_simple\_\_fn\_\_integral} \\
\mathit{A\_27a})\ \mathit{V0m})\ \mathit{V12k})\ \mathit{V11c})\ \mathit{V9z}))\wedge(((\mathit{ap}\ (\mathit{ap}\ (\mathit{ap}\ (\mathit{ap}\ (\mathsf{c\_2Elebesgue\_2Epos\_\_simple\_\_fn\_\_integral} \\
\mathit{A\_27a})\ \mathit{V0m})\ \mathit{V6s\_27})\ \mathit{V7b})\ \mathit{V8y}) = (\mathit{ap}\ (\mathit{ap}\ (\mathit{ap}\ (\mathit{ap}\ (\mathsf{c\_2Elebesgue\_2Epos\_\_simple\_\_fn\_\_integral} \\
\mathit{A\_27a})\ \mathit{V0m})\ \mathit{V12k})\ \mathit{V11c})\ \mathit{V10z\_27}))\wedge((p\ (\mathit{ap}\ (\mathsf{c\_2Epred\_\_set\_2EFINITE} \\
\mathit{ty\_2Enum\_2Enum})\ \mathit{V12k}))\wedge((\forall \mathit{V17i} \in \mathit{ty\_2Enum\_2Enum}.((p\ (\\
\mathit{ap}\ (\mathit{ap}\ (\mathsf{c\_2Ebool\_2EIN}\ \mathit{ty\_2Enum\_2Enum})\ \mathit{V17i})\ \mathit{V12k})){\Rightarrow}(p\ (\mathit{ap}\ (\mathit{ap}\ \mathsf{c\_2Ereal\_2Ereal\_\_lte} \\
(\mathit{ap}\ \mathit{c\_2Ereal\_2Ereal\_\_of\_\_num}\ \mathsf{c\_2Enum\_2E0}))\ (\mathit{ap}\ \mathit{V9z}\ \mathit{V17i})))))\wedge \\
((\forall \mathit{V18i} \in \mathit{ty\_2Enum\_2Enum}.((p\ (\mathit{ap}\ (\mathit{ap}\ (\mathsf{c\_2Ebool\_2EIN}\ \mathit{ty\_2Enum\_2Enum}) \\
\mathit{V18i})\ \mathit{V12k})){\Rightarrow}(p\ (\mathit{ap}\ (\mathit{ap}\ \mathsf{c\_2Ereal\_2Ereal\_\_lte}\ (\mathit{ap}\ \mathit{c\_2Ereal\_2Ereal\_\_of\_\_num} \\
\mathsf{c\_2Enum\_2E0}))\ (\mathit{ap}\ \mathit{V10z\_27}\ \mathit{V18i})))))\wedge((\forall \mathit{V19i} \in \mathit{ty\_2Enum\_2Enum}. \\
(\forall \mathit{V20j} \in \mathit{ty\_2Enum\_2Enum}.(((p\ (\mathit{ap}\ (\mathit{ap}\ (\mathsf{c\_2Ebool\_2EIN}\ \mathit{ty\_2Enum\_2Enum}) \\
\mathit{V19i})\ \mathit{V12k}))\wedge((p\ (\mathit{ap}\ (\mathit{ap}\ (\mathsf{c\_2Ebool\_2EIN}\ \mathit{ty\_2Enum\_2Enum})\ \mathit{V20j}) \\
\mathit{V12k}))\wedge(\neg(\mathit{V19i} = \mathit{V20j})))){\Rightarrow}(p\ (\mathit{ap}\ (\mathit{ap}\ (\mathsf{c\_2Epred\_\_set\_2EDISJOINT} \\
\mathit{A\_27a})\ (\mathit{ap}\ \mathit{V11c}\ \mathit{V19i}))\ (\mathit{ap}\ \mathit{V11c}\ \mathit{V20j}))))))\wedge((\forall \mathit{V21i} \in \mathit{ty\_2Enum\_2Enum}. \\
((p\ (\mathit{ap}\ (\mathit{ap}\ (\mathsf{c\_2Ebool\_2EIN}\ \mathit{ty\_2Enum\_2Enum})\ \mathit{V21i})\ \mathit{V12k})){\Rightarrow}(p\ (\mathit{ap} \\
(\mathit{ap}\ (\mathsf{c\_2Ebool\_2EIN}\ (2^{\mathit{A\_27a}}))\ (\mathit{ap}\ \mathit{V11c}\ \mathit{V21i}))\ (\mathit{ap}\ (\mathit{c\_2Emeasure\_2Emeasurable\_\_sets} \\
\mathit{A\_27a})\ \mathit{V0m})))))\wedge((\mathit{ap}\ (\mathsf{c\_2Epred\_\_set\_2EBIGUNION}\ \mathit{A\_27a})\ (\mathit{ap}\ (\mathit{ap} \\
(\mathsf{c\_2Epred\_\_set\_2EIMAGE}\ \mathit{ty\_2Enum\_2Enum}\ (2^{\mathit{A\_27a}}))\ \mathit{V11c})\ \mathit{V12k})) = \\
(\mathit{ap}\ (\mathit{c\_2Emeasure\_2Em\_\_space}\ \mathit{A\_27a})\ \mathit{V0m})))))))))))))))))))))))))
\end{gathered}
\tag{46}
$$

Assume the following.

$$\forall A\_27a.nonempty\ A\_27a \Rightarrow \forall A\_27b.nonempty\ A\_27b \Rightarrow (\forall V0x \in A\_27a.(\forall V1y \in A\_27b.(\forall V2a \in A\_27a.(\forall V3b \in A\_27b.(((ap\ (ap\ (\mathsf{c\_2Epair\_2E\_2C}\ A\_27a\ A\_27b)\ V0x)\ V1y) = (ap\ (ap\ (\mathsf{c\_2Epair\_2E\_2C}\ A\_27a\ A\_27b)\ V2a)\ V3b)) \Leftrightarrow ((V0x = V2a) \wedge (V1y = V3b))))))) \tag{47}$$

Assume the following.

$$\forall A\_27a.nonempty\ A\_27a \Rightarrow \forall A\_27b.nonempty\ A\_27b \Rightarrow (\forall V0x \in (ty\_2Epair\_2Eprod\ A\_27a\ A\_27b).(\exists V1q \in A\_27a. (\exists V2r \in A\_27b.(V0x = (ap\ (ap\ (\mathsf{c\_2Epair\_2E\_2C}\ A\_27a\ A\_27b)\ V1q)\ V2r))))) \tag{48}$$

Assume the following.

$$\forall A\_27a.nonempty\ A\_27a \Rightarrow \forall A\_27b.nonempty\ A\_27b \Rightarrow \forall A\_27c. nonempty\ A\_27c \Rightarrow (\forall V0f \in ((A\_27c^{A\_27b})^{A\_27a}).(\forall V1x \in A\_27a.(\forall V2y \in A\_27b.((ap\ (ap\ (\mathsf{c\_2Epair\_2EUNCURRY}\ A\_27a\ A\_27b\ A\_27c)\ V0f)\ (ap\ (ap\ (\mathsf{c\_2Epair\_2E\_2C}\ A\_27a\ A\_27b)\ V1x)\ V2y)) = (ap\ (ap\ V0f\ V1x)\ V2y))))) \tag{49}$$

Assume the following.

$$\forall A\_27a.nonempty\ A\_27a \Rightarrow \forall A\_27b.nonempty\ A\_27b \Rightarrow (\forall V0f \in ((ty\_2Epair\_2Eprod\ A\_27a\ 2)^{A\_27b}).(\forall V1v \in A\_27a.((p\ (ap\ (ap\ (\mathsf{c\_2Ebool\_2EIN}\ A\_27a)\ V1v)\ (ap\ (c\_2Epred\_\_set\_2EGSPEC\ A\_27a\ A\_27b)\ V0f))) \Leftrightarrow (\exists V2x \in A\_27b.((ap\ (ap\ (\mathsf{c\_2Epair\_2E\_2C}\ A\_27a\ 2)\ V1v)\ \mathsf{c\_2Ebool\_2ET}) = (ap\ V0f\ V2x)))))) \tag{50}$$

Assume the following.

$$\forall A\_27a.nonempty\ A\_27a \Rightarrow \forall A\_27b.nonempty\ A\_27b \Rightarrow (\forall V0y \in A\_27b.(\forall V1s \in (2^{A\_27a}).(\forall V2f \in (A\_27b^{A\_27a}). ((p\ (ap\ (ap\ (\mathsf{c\_2Ebool\_2EIN}\ A\_27b)\ V0y)\ (ap\ (ap\ (\mathsf{c\_2Epred\_\_set\_2EIMAGE}\ A\_27a\ A\_27b)\ V2f)\ V1s))) \Leftrightarrow (\exists V3x \in A\_27a.((V0y = (ap\ V2f\ V3x)) \wedge (p\ (ap\ (ap\ (\mathsf{c\_2Ebool\_2EIN}\ A\_27a)\ V3x)\ V1s)))))))) \tag{51}$$

Theorem 1

$$\forall A\_27a.nonempty\ A\_27a \Rightarrow (\forall V0m \in (ty\_2Epair\_2Eprod$$
$$(2^{A\_27a})\ (ty\_2Epair\_2Eprod\ (2^{(2^{A\_27a})})\ (ty\_2Erealax\_2Ereal^{(2^{A\_27a})}))).$$
$$(\forall V1f \in (ty\_2Eextreal\_2Eextreal^{A\_27a}).(\forall V2g \in ($$
$$ty\_2Eextreal\_2Eextreal^{A\_27a}).(\forall V3a \in ty\_2Eextreal\_2Eextreal.$$
$$(\forall V4b \in ty\_2Eextreal\_2Eextreal.(((p\ (ap\ (\mathsf{c\_2Emeasure\_2Emeasure\_\_space}$$
$$A\_27a)\ V0m))\wedge((p\ (ap\ (ap\ (\mathsf{c\_2Ebool\_2EIN}\ ty\_2Eextreal\_2Eextreal)$$
$$V3a)\ (ap\ (ap\ (\mathsf{c\_2Elebesgue\_2Epsfis}\ A\_27a)\ V0m)\ V1f)))\wedge(p\ (ap\ (ap$$
$$(\mathsf{c\_2Ebool\_2EIN}\ ty\_2Eextreal\_2Eextreal)\ V4b)\ (ap\ (ap\ (\mathsf{c\_2Elebesgue\_2Epsfis}$$
$$A\_27a)\ V0m)\ V2g)))))\Rightarrow(\exists V5z \in (ty\_2Erealax\_2Ereal^{ty\_2Enum\_2Enum}).$$
$$(\exists V6z\_27 \in (ty\_2Erealax\_2Ereal^{ty\_2Enum\_2Enum}).(\exists V7c \in$$
$$((2^{A\_27a})^{ty\_2Enum\_2Enum}).(\exists V8k \in (2^{ty\_2Enum\_2Enum}).$$
$$((\forall V9t \in A\_27a.((p\ (ap\ (ap\ (\mathsf{c\_2Ebool\_2EIN}\ A\_27a)\ V9t)\ (ap$$
$$(c\_2Emeasure\_2Em\_\_space\ A\_27a)\ V0m)))\Rightarrow((ap\ V1f\ V9t) = (ap\ (ap\ ($$
$$\mathsf{c\_2Eextreal\_2EEXTREAL\_\_SUM\_\_IMAGE}\ ty\_2Enum\_2Enum)\ (\lambda V10i \in$$
$$ty\_2Enum\_2Enum.(ap\ (ap\ c\_2Eextreal\_2Eextreal\_\_mul\ (ap\ c\_2Eextreal\_2ENormal$$
$$(ap\ V5z\ V10i)))\ (ap\ (ap\ (\mathsf{c\_2Emeasure\_2Eindicator\_\_fn}\ A\_27a)\ (ap$$
$$V7c\ V10i))\ V9t))))\ V8k))))\wedge((\forall V11t \in A\_27a.((p\ (ap\ (ap\ (\mathsf{c\_2Ebool\_2EIN}$$
$$A\_27a)\ V11t)\ (ap\ (c\_2Emeasure\_2Em\_\_space\ A\_27a)\ V0m)))\Rightarrow((ap\ V2g$$
$$V11t) = (ap\ (ap\ (\mathsf{c\_2Eextreal\_2EEXTREAL\_\_SUM\_\_IMAGE}\ ty\_2Enum\_2Enum)$$
$$(\lambda V12i \in ty\_2Enum\_2Enum.(ap\ (ap\ c\_2Eextreal\_2Eextreal\_\_mul$$
$$(ap\ c\_2Eextreal\_2ENormal\ (ap\ V6z\_27\ V12i)))\ (ap\ (ap\ (\mathsf{c\_2Emeasure\_2Eindicator\_\_fn}$$
$$A\_27a)\ (ap\ V7c\ V12i))\ V11t))))\ V8k))))\wedge((V3a = (ap\ (ap\ (ap\ (ap\ (\mathsf{c\_2Elebesgue\_2Epos\_\_simple\_\_fn\_\_integ}$$
$$A\_27a)\ V0m)\ V8k)\ V7c)\ V5z))\wedge((V4b = (ap\ (ap\ (ap\ (ap\ (\mathsf{c\_2Elebesgue\_2Epos\_\_simple\_\_fn\_\_integral}$$
$$A\_27a)\ V0m)\ V8k)\ V7c)\ V6z\_27))\wedge((p\ (ap\ (\mathsf{c\_2Epred\_\_set\_2EFINITE}$$
$$ty\_2Enum\_2Enum)\ V8k))\wedge((\forall V13i \in ty\_2Enum\_2Enum.((p\ (ap$$
$$(ap\ (\mathsf{c\_2Ebool\_2EIN}\ ty\_2Enum\_2Enum)\ V13i)\ V8k))\Rightarrow(p\ (ap\ (ap\ \mathsf{c\_2Ereal\_2Ereal\_\_lte}$$
$$(ap\ c\_2Ereal\_2Ereal\_\_of\_\_num\ \mathsf{c\_2Enum\_2E0}))\ (ap\ V5z\ V13i)))))\wedge$$
$$((\forall V14i \in ty\_2Enum\_2Enum.((p\ (ap\ (ap\ (\mathsf{c\_2Ebool\_2EIN}\ ty\_2Enum\_2Enum)$$
$$V14i)\ V8k))\Rightarrow(p\ (ap\ (ap\ \mathsf{c\_2Ereal\_2Ereal\_\_lte}\ (ap\ c\_2Ereal\_2Ereal\_\_of\_\_num$$
$$\mathsf{c\_2Enum\_2E0}))\ (ap\ V6z\_27\ V14i)))))\wedge((\forall V15i \in ty\_2Enum\_2Enum.$$
$$(\forall V16j \in ty\_2Enum\_2Enum.(((p\ (ap\ (ap\ (\mathsf{c\_2Ebool\_2EIN}\ ty\_2Enum\_2Enum)$$
$$V15i)\ V8k))\wedge((p\ (ap\ (ap\ (\mathsf{c\_2Ebool\_2EIN}\ ty\_2Enum\_2Enum)\ V16j)\ V8k))\wedge$$
$$(\neg(V15i = V16j))))\Rightarrow(p\ (ap\ (ap\ (\mathsf{c\_2Epred\_\_set\_2EDISJOINT}\ A\_27a)$$
$$(ap\ V7c\ V15i))\ (ap\ V7c\ V16j))))))\wedge((\forall V17i \in ty\_2Enum\_2Enum.$$
$$((p\ (ap\ (ap\ (\mathsf{c\_2Ebool\_2EIN}\ ty\_2Enum\_2Enum)\ V17i)\ V8k))\Rightarrow(p\ (ap\ ($$
$$ap\ (\mathsf{c\_2Ebool\_2EIN}\ (2^{A\_27a}))\ (ap\ V7c\ V17i))\ (ap\ (c\_2Emeasure\_2Emeasurable\_\_sets$$
$$A\_27a)\ V0m)))))\wedge((ap\ (\mathsf{c\_2Epred\_\_set\_2EBIGUNION}\ A\_27a)\ (ap\ (ap$$
$$(\mathsf{c\_2Epred\_\_set\_2EIMAGE}\ ty\_2Enum\_2Enum\ (2^{A\_27a}))\ V7c)\ V8k)) =$$
$$(ap\ (c\_2Emeasure\_2Em\_\_space\ A\_27a)\ V0m)))))))))))))))))))))$$