

Topological spaces

Index of notations

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INDEX OF NOTATIONS

$\text{bd } X$	358	$\text{Hom } \langle a, b \rangle, \text{Hom}_{\mathcal{X}} \langle a, b \rangle$	223
C	192, 193	$\text{ind } K$	612 (33 C), 700 (37 A), 740 (39 C)
$\mathbf{C}, \mathbf{C}(P)$	238	$\text{ind } (\mathcal{P} \times \mathcal{Q})$	296
$\mathbf{C}(\mathcal{P}, \mathcal{Q})$	270	$\text{ind } \Pi\{\mathcal{P}_a\}$	614
$\mathbf{C}^*(\mathcal{P}, R)$	338	$\text{Inf } X$	172
$\text{card } X$	60 (3 E), 151 (9 A)	$\text{inf } X$	173
$\mathbf{Corr}(\mathcal{X}, \mathcal{Y})$	122	inj_a	85
$D\varphi, D_{\mathcal{X}}\varphi$	223	$\text{int } X, \text{int}_u X$	240
$D\varrho$	26	J, J_X	25
D^*f	116	$L, L(P)$	656
$\text{dist}(X, Y)$	300	$\mathbf{Lim}, \mathbf{Lim} \mathcal{P}, \text{etc.}$	259 (15 B), 642 (35 A)
$E\varphi, E_{\mathcal{X}}\varphi$	223	$\text{lc } \mathcal{L}$	591
$E\varrho$	26	$\lim \mathcal{N}$	261, 265 (15 B), 650 (35 A)
E^*f	116	$\varinjlim \mathcal{S}$	750 (40 A), 767 (40 C)
$E\{T \mid R\}$	22	$\varprojlim \mathcal{S}$	746 (40 A), 767 (40 C), 875 (Notes)
$E\{T \rightarrow U \mid R\}, E\{T \rightarrow U\}, \text{etc.}$	28	$\liminf \mathcal{N}$	264 (15 B), 650 (35 A)
\mathbf{Ens}	875	$\limsup \mathcal{N}$	264 (15 B), 650 (35 A)
exact \mathbf{F}_a , exact \mathbf{G}_a	860	$\log x$	826
$\exp X$	36	N, N_p	56
$\exp[\mathcal{A}]$	84	$N(f)$	508
$\exp' X$	623	$\text{obj } \mathcal{K}$	875
$\mathbf{F}(\mathcal{X}, \mathcal{Y})$	136	ord	200.
$\mathbf{F}^*(\mathcal{S}, \mathcal{L})$	348	Ord	199
$\mathbf{F}^*(\mathcal{S}, R)$	463	$\mathbf{P}, \mathbf{P}(P)$	446
$\mathbf{F}_a, \mathbf{F}_a(\mathcal{P})$	850, 851	$\mathbf{P}(\mathcal{P}, \mathcal{Q})$	446
\mathbf{F}_σ	391	$\mathbf{P}(\mathcal{P}), \mathbf{P}(P, u)$	719
$\mathbf{G}_a, \mathbf{G}_a(\mathcal{P})$	850, 851	pr_a	82
\mathbf{G}_δ	391	$\text{proj } K, \text{proj}_{\mathcal{K}} K, \text{etc.}$	584 (32 B), 700 (37 A), 737 (39 B)
$\text{gr } f$	116	Q	149
$\text{gr } [\mathcal{F}]$	473		
$\mathbf{H}(\mathcal{P}), \mathbf{H}_+(\mathcal{P}), \mathbf{H}_-(\mathcal{P}), \text{etc.}$	623		
$\text{Hom}(\mathcal{X}, \mathcal{Y})$	136		

R	192 (10 H), 246 (14 B), 301 (18 A)	in a category	875
$S, S(P)$	656	$\prod_{k=0}^n x_k$	97
\mathcal{S}_f	760	$\Pi_{\text{comp}}\{\varrho_a\}$ (abbr. $\Pi\{\varrho_a\}$)	106 (6 E), 127, 129 (8 A), 133 (8 B)
$\text{st}(\mathcal{X}, M), \text{st}_{\mathcal{X}} M, \text{st } \mathcal{X}, \text{st } (\mathcal{X}, \mathcal{Y})$	204	$\Pi_{\text{full}}\{\mathcal{F}_a\}$ (abbr. $\Pi\{\mathcal{F}_a\}$)	210
$\text{star}(Y, \mathcal{X})$	623	$\Pi_{\text{lex}}\{\sigma_a\}$ (abbr. $\Pi\{\sigma_a\}$)	827
$\text{Sup } X$	172	$\Pi_{\text{red}}\{\varrho_a\}$ (abbr. $\Pi\{\varrho_a\}$)	87 (see Errata)
$\text{sup } X$	173	$\Pi_{\text{rel}}\{\varrho_a\}$ (abbr. $\Pi\{\varrho_a\}$)	87
$T_\theta \lim \mathcal{N}$	835	σ	657
$T_\theta \liminf \mathcal{N}$	835	$\Sigma\{\mathcal{X}_a \mid a \in A\}, \Sigma\{\varrho_a\}, \text{etc.}$	
$T_\theta \limsup \mathcal{N}$	835	for cardinals	157
$\mathbf{U}, \mathbf{U}(P)$	408	for ordinals	829
$\mathbf{U}(\mathcal{P}, \mathcal{Q})$	408	for relations	87, 88
$\mathbf{U}(\mathcal{P}), \mathbf{U}(P, u)$	682	for sets	85
$\mathbf{U}(\mathcal{P}), \mathbf{U}(P, p)$	719	for spaces	287 (17 B), 410 (23 D), 448 (25 A), 731 (39 A)
$\text{ult } A$	211	$\sum_{k=0}^n x_k$	97
$\text{ult } f$	213	$\Sigma_{\text{red}}\{\varrho_a\}$ (abbr. $\Sigma\{\varrho_a\}$)	88
$\text{unif } \mathcal{P}^A$	334 (19 B), 430 (24 D)	$\Sigma_{\text{rel}}\{\varrho_a\}$ (abbr. $\Sigma\{\varrho_a\}$)	87
$\text{unif } \mathbf{F}(A, \mathcal{P})$	334 (19 B), 431 (24 D)	τ	272
$\mathbf{V}\mathcal{X}$	203	$\tau\mathbf{C}, \tau\mathbf{C}(P)$	563
$\text{weak } \mathcal{L}$	592	$v, v_C, \text{etc.}$	563 (31 B), 686 (36 B), 722 (38 C)
Z	145	$v\mathbf{C}, v\mathbf{C}(P)$	563
$Z(f)$	508	$v\mathbf{P}, v\mathbf{P}(P)$	722
$\mathfrak{M}(\mathcal{R})$	322	$v\mathbf{P}(\mathcal{P}), v\mathbf{P}(P, u)$	722
$\mathfrak{P}(\mathcal{R})$	322	$v\mathbf{U}, v\mathbf{U}(P)$	686
$\beta X, \beta \mathcal{P}$	244 (14 B), 810 (41 D)	$v\mathbf{U}(\mathcal{P}), v\mathbf{U}(P, u)$	686
$\gamma, \gamma_{\mathbf{CP}}, \text{etc.}$	682 (36 A), 703 (37 B), 717 (38 B)	$v\mathbf{U}(\mathcal{P}), v\mathbf{U}(P, p)$	722
$\Pi\{\mathcal{X}_a \mid a \in A\}, \Pi\{\varrho_a\}, \text{etc.}$		ω_a	201
for algebraic structs	107 (6 E), 111 (6 F), 127 (8 A), 133 (8 B)	\aleph_0	153
for cardinals	158	\aleph_a	200
for correspondences, relations	87 (5 C), 120, 121 (7 C), 293 (17 C), 412 (23 D)	$\Rightarrow, \Leftrightarrow$	18, 19
for filters	210	\emptyset	22
for ordinals	829	$\epsilon, \neq, \text{etc.}$	20 (1 A), 25 (1 B)
for quasi-orders	165 (10 B), 827 (10 ex.)	\subset, \supset	23 (1 A), 25 (1 B)
for sets	82	$\leq, \text{etc.}$	56 (3 D), 146 (8 E), 152 (9 B), 161 (10 A), 192 (10 H), 199 (11 B)
for spaces	289 (17 C), 411 (23 D), 731 (39 A)	\cup, \bigcup	39, 40, 41, 44 (2), 95 (6 A)
for topological algebras, etc.	336 (19 B), 343 (19 C), 346 (19 D)	\cap, \bigcap	39, 40, 41, 42, 44 (2), 95 (6 A)
		\div	39 (2), 95 (6 A)

$X - Y$	39, 44	$\varrho \times_{\text{comp}} \sigma, abbr. \varrho \times \sigma$	107 (6 E), 221 (13 A)
\vee, \vee	173	$\mathcal{F}_1 \times_{\text{fil}} \mathcal{F}_2, abbr. \mathcal{F}_1 \times \mathcal{F}_2$	210
\wedge, \wedge	173	$\mathcal{X} \times_{\text{lex}} \mathcal{Y}, abbr. \mathcal{X} \times \mathcal{Y}$ (quasi-ordered sets)	165
(a_1, \dots, a_n)	23	$\varrho_1 \times_{\text{rel}} \varrho_2, abbr. \varrho_1 \times \varrho_2$	86
$\langle a, b \rangle, \langle a_1, \dots, a_n \rangle$	24	$f \circ g, \varrho \circ \sigma, etc.$	29 (1 C), 120 (7 C)
$\langle a; b \rangle, \langle a_1, \dots, a_n; b \rangle$	336	$+ \quad 344$	
$\varrho[A], f^{-1}[X], etc.$	26, 27 (1 B), 117 (7 B), 137 (8 C)	$x + y$ (numbers)	59 (3 E), 146 (8 E), 149 (8 F), 155 (9 C), 192, 193 (10 H), 829 (11 ex.)
$[\mathcal{A}] \cup [\mathcal{B}], A \times [\mathcal{B}], etc.$	44 (2), 84 (5 A), 95 (6 A), 473 (28 E)	. (dot)	330, 344
$\{T \rightarrow U \mid R\}, \{U \mid R\}, etc.$	28	$x \cdot y = xy$ (numbers)	59 (3 E), 146 (8 E), 149 (8 F), 156 (9 C), 192, 193 (10 H), 829 (11 ex.)
$\{x_a \mid a \in A\}, \{x_a\}, etc.$	34	$\alpha \cdot \beta = \alpha\beta$ (sequences)	61
$\{a_k\}_{k=0}^{\infty}, \{a_0, \dots, a_p\}, etc.$	56	$x \cdot y = xy$ (morphisms)	217
$\sigma\{a_k\}, \sigma_u\{a_k\}, etc.$	96, 97 (6 A), 351 (19 F)	ϱx (value at x)	32 (1 D), 117 (7 B)
$ \mathcal{X} $ (\mathcal{X} a struct)	113 (7 A), 116 (7 B)	nx (n an integer)	97
$ \mathcal{S} $ (\mathcal{S} a presheaf)	767	$x\varrho y$ (ϱ a relation)	25
$\ f\ $	347	$x\sigma y, amy, etc.$ (σ, m compositions)	95
$[[a, b]], [[a, \rightarrow]], etc.$	31 (1 C), 164 (10 B)	(6 A), 108 (6 F), 128 (8 A), 216 (13 A)	
$f: \mathcal{P} \rightarrow \mathcal{Q}$	117	$\mathcal{X}^Y, \varrho^Y, etc.$ (Y a set)	36 (1 E), 87 (5 C), 106, 107 (6 E), 120 (7 C), 127, 129 (8 A), 133 (8 B), 188 (10 H), 294 (17 C), 336 (19 B), 343 (19 C), 346 (19 D), 413 (23 D)
\lim, \lim	746, 750 (40 A), 767 (40 C), 857 (Notes)	$\mathcal{X}^n, \varrho^n, etc.$ (n a natural number)	56
\bar{X}, \bar{X}^P	238	(3 D), 59 (3 E), 61 (3 F)	
$\tilde{\mathcal{G}}$	764	x^n (n an integer)	97
$f/\varrho, \mathcal{X}/\varrho, etc.$ (ϱ a relation)	138 (8 C), 827 (10 ex.)	ϱ^{-1}, f^{-1}	27 (1 B), 120 (7 C)
\mathcal{X}/ϱ (ϱ an equivalence)	38 (1 E), 138 (8 C), 609 (33 C), 710 (37 D)	\mathcal{P}^m, n^m (m a cardinal)	156 (9 C), 294 (17 C)
\mathcal{X}/f (f a mapping)	138 (8 C), 608 (33 C), 710 (37 D), 741 (39 D)	$\varrho^{\text{rel } A}$	430
$\mathcal{X}/T, \mathcal{G}/H, etc.$	140 (8 D), 635 (34 C)	$\varrho_Y, \mathcal{X}_Y, etc.$ (Y a class)	27 (1 B), 95 (6 A), 108, 110 (6 F), 126, 129 (8 A), 132 (8 B), 161 (10 A), 188 (10 H), 314 (18 A), 745 (40 A)
$\mathcal{P}/_T f, \mathcal{P}/_T \varrho$	608, 609	\mathcal{A}_x (\mathcal{A} a well-ordered class)	195
$\mathcal{P}/_v f, \mathcal{P}/_v \varrho$	710		
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$X \times Y$ (classes)	32		
$\mathcal{P} \times \mathcal{Q}$ (closure spaces, closures)	290		
$\mathcal{X} \times \mathcal{Y}$ (covers)	205		

In formulae, only the round parentheses are used for the purposes of precedence, in the customary manner, as in $(X \cup Y) \cap Z$.