

## CATALOGUE OF NOTATION

### Relations

$x \in A$	set membership	6
$\in_A$	membership of subsets of $A$	103
$\in \upharpoonright A$	membership restricted to $A$	307
$g \in f$	membership for subobjects in <b>Set</b>	316
$E_{\mathcal{E}}$	membership for set-objects in $\mathcal{E}$	327
$A \subseteq B$	set inclusion	8
$f \subseteq g$	subobject inclusion	76
$r \subseteq s$	inclusion for relations	322
$\leq$	'is less than or equal to'	29
$\otimes$	ordering of truth-values	137, 139
$a \leq b$	restriction-ordering on sheaves	390
$a \bowtie b$	compatibility	390
$s \leq t$	<i>negative</i> $\leq$ -ordering of the continuum	429
$r \leq c, c \leq r$	<i>positive</i> $\leq$ -ordering	431
$r < s$	ordering of $*R$	435
$\sqsubseteq$	partial-ordering	29
$\sqsubset$	antireflexive $\sqsubseteq$ -ordering	72
$p < q$	'close to'	383
$\neq$	apartness	425
$a \cong b$	isomorphic objects	41
$\mathcal{C} \cong \mathcal{D}$	isomorphic categories	200
$\mathcal{C} \simeq \mathcal{D}$	equivalent categories	200
$f \simeq g$	isomorphic subobjects	77
$r \simeq s$	equality of transitive set-objects	325
$\simeq_{\mathcal{E}}$	equality of set-objects	326
$R^{-1}$	inverse relation	45
$R_f$	kernel	66, 111
$\Delta$	diagonal	236
$F \dashv G$	left adjoint	439
$G \vdash F$	right adjoint	439

### Objects (elements, sets, structured sets, algebras, spaces)

$\{x: \varphi(x)\}$	set determined by property	7
$A \cap B$	intersection of sets	7
$f \cap g$	intersection of subobjects	147