# **CIS260-201/204-Spring 2008**

### IATEX Symbol Set #2

Friday, February 1

## 1 Symbols

Symbol	IATEX Code	Remarks
$\neq$	\neq	
	\mid	
$\wedge$	\wedge Or \land	
V	\vee Or \lor	
{	\{	
}	\}	
€	\in	
∉	\notin	
$\subseteq$	\subseteq	
∉ ⊆ ⊈ ⊊ ø	\nsubseteq	Need amssymb package.
Ç	\subsetneq	Need amssymb package.
	\emptyset	
$\mathbb{N}$	\mathbb N	Need amssymb package.
${\mathbb Z}$	\mathbb Z	Need amssymb package.
$\mathbb Q$	\mathbb Q	Need amssymb package.
$\mathbb{R}$	\mathbb R	Need amssymb package.
$\forall$	\forall	
3	\exists	
$\cap$	\cap	
$\cup$	\cup	
\	\setminus	
$\Delta$	\Delta	

#### 2 Examples

Expression	IAT <sub>E</sub> X Code
$\frac{1}{2}$ $x^2$	\frac{1}{2}
	x^2
$121^{260}$	121^{260}
$2^{3^4}$	2^{3^4}
$1 \neq 2$	1\neq 2
2   6	2\mid 6
$x \wedge y$	x\wedge y
$x \vee y$	x\vee y
$1 \in \{1, 2, 3\}$	$1 \in \{1, 2, 3\}$
$6 \notin \{1, 2, 3\}$	6\notin\{1,2,3\}
$A \subseteq A$	A\subseteq A
$\mathbb{Z}  otin \mathbb{N}$	\mathbb Z\nsubseteq\mathbb N
$\emptyset \subsetneq \mathbb{Q}$	\emptyset\subsetneq\mathbb Q
$\forall x \in \mathbb{R} : 1 \cdot x = x$	\forall x\in\mathbb R:1\cdot x=x
$\exists x \in \mathbb{Z} : x > 0$	\exists x\in\mathbb Z:x>0
$ A  +  B  =  A \cup B  +  A \cap B $	A + B = A\cup B + A\cap B
$A \setminus A = \emptyset$	A\setminus A=\emptyset
$A \Delta B = B \Delta A$	A\Delta B=B\Delta A

#### 3 Exercises

Try typesetting these statements.

1. 
$$a^2 + b^2 = c^2$$

2. 
$$(x + \frac{1}{2})^2 = x^2 + x + \frac{1}{4}$$

$$3. \ 2008^{2547^{1985^{2528}}} \neq 1$$

4. 
$$x \mid y \Rightarrow x \mid x$$

5. 
$$\neg(x \land y) = \neg x \lor \neg y$$

6. 
$$0 \in \{0\}$$
 but  $\emptyset \notin \{0\}$ 

7. 
$$\mathbb{R} \nsubseteq \mathbb{N} \subseteq \mathbb{Z} \subsetneq \mathbb{Q}$$

8. 
$$\forall x \in \mathbb{Z} \exists y \in \mathbb{Z} : y > x$$

9. 
$$|\{1, 2, 4, 8\} \cap \{2, 3, 5, 7\}| = 1$$

10. 
$$A \Delta B = (A \setminus B) \cup (B \setminus A)$$