?
?
$|\cdot| :\to$

$|a+ib| \mapsto \sqrt{a^2+b^2}$

$a+$
$ib \in$
k
$|$
$\cdot$
$| :$
$k \to$
val-
u-
a-
tion
$|\alpha| =$
$0 \iff$
$\alpha =$
0
$|$
$\cdot$
$| \subset$
$|\alpha\beta| =$
$|\alpha||\beta|$
$|\alpha+$
$\beta| \leq$
$|\alpha|+$
$|\beta|$
nonar-
chimedean
archimedean
$|\alpha+$
$\beta| \leq$
$\max(|\alpha|, |\beta|)$
$(1+$
$i)$
(i)
$(3) \subset$

$x3 = x(3) = 3^{-\nu_3(x)}$

$363 =$
3^{-2}
field-
theoretic
1
equiv-
a-
lence
$\cdot 1$
$\cdot 2$
equiv-
a-
lent
1
$c \in$
$(0, 1)$
$|\cdot|_1 = |\cdot|_2^c$

equiv-
a-
lent
prime
place
place
p
(p)
p
fi-
nite
$|$
$\cdot$
$|_i$
$\cdot$
$|_1$
$\cdot$
$|_2$
γ
$|\gamma|_1 < 1 and |\gamma|_2 > 1.$

$|$
$\cdot$
$|_i$
α
$|\alpha|_1 > 1 and |\alpha|_{i>1} < 1.$

$|$
$\cdot$
$|_i$
$\epsilon >$
0
α
$|\alpha - 1|_1 \leq 1 and |\alpha|_{\nu>1} \leq 1.$

$(|$
$\cdot$

$0 \neq$
$\alpha \in$
k
ν_i
0
??
can
?
??
M
$(, |\cdot$
$|_)$
$0 \neq$
$\alpha \in$
k
$\alpha =$
1

$$\prod_{\alpha} = 1$$

$6 \in$
$6(0)\cdot 6(2)\cdot 6(3) = 6\cdot 2^{-1}\cdot 3^{-1} = 1$

$1 + 1() >$
1
k
\`e
M
V_M

$$v = (v_)_, where v_\in k.$$

v
v
$(v_)$
idèle
$v \neq$
0
$v_= 1$
$k \hookrightarrow$
V_M
i
$k \rightarrow$
k

$$\alpha \mapsto (i_(\alpha))$$

è
è
$$V() = \prod$$

è
1
è
V_M
α
k
??

$$V(\alpha) = \prod_{=} 1.$$

$$V(\alpha) = V(\alpha)V() = V().$$

$\mapsto$
$x_\in$
$x_= 1$

$\leq$

x
x
$V()$
TODO ADD LINK
$x_\in$
$\alpha_\in$
x
è

$\leq$

or-der **?**
$\alpha \in$
k
k
V_M
k