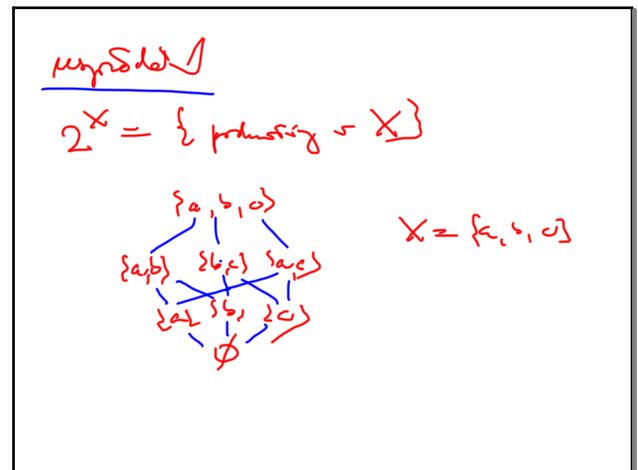
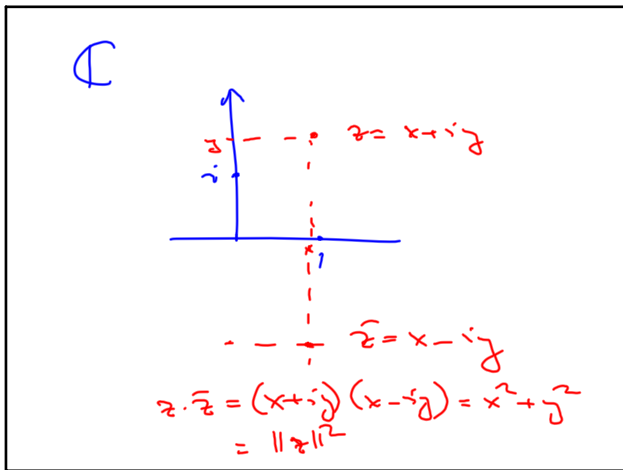


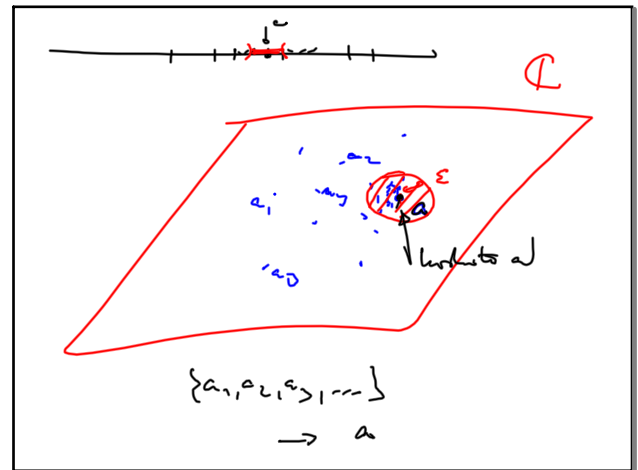
2 28-14:08



2 28-14:18



2 28-14:27



2 28-14:29

$a_{2n} = \sqrt{2} - 1/4$   
 $a_{2n+1} = \sqrt{2} + 1/4$   
 v  $\mathbb{Q}$  nicht  
 konvergent!  
 je Cauchyfolge  
 $|a+b| \leq |a| + |b| \quad (\forall \mathbb{R})$   
 $a_i - a_j = (a_i - a) + (a - a_j)$

2 28-14:34

Die Menge  $\{a_1, a_2, a_3, \dots\}$  Cauchyfolge  
 $\Rightarrow$  je  $\delta$  existiert  
 $B = \{x \in \mathbb{R} \mid x < a\}$   
 je  $\delta$  existiert, es ist  $\epsilon$  bestimmbar  
 $a = \sup B$  a kleinstes,  $\epsilon$   $\{a_i\}$  konvergiert  $\delta a$   
 $\mathbb{Q}$   
 $a_n = 1/n, a_{2n+1} = 1 - 1/4$   
 $A = \{a_1, a_2, a_3, \dots\}$

2 28-14:39

$\mathbb{Z} \hookrightarrow \mathbb{Q}$

$$\frac{p}{q} = \frac{p'}{q'}$$

$$q'p = p'q$$

$(0, 1) \ni \{1/n\}$

2 28-14:47

$(\frac{1}{2n+1}, \frac{1}{2n-1})$

$(\frac{1}{2n}, \frac{1}{2n-2})$

2 28-15:18

$\mathbb{R} \cup \mathbb{C}$

$A \ni p$

konstante  
null

$f$

$\mathbb{C}$

$a$

algebraisch

$f(O_{\mathbb{C}}) \subset O_{\mathbb{R}}$  wenn  $f(\mathbb{R})$

2 28-15:25

$A = \mathbb{N}$   $a_n = f(n)$  partizipant

$\lim_{n \rightarrow \infty} a_n = a$

$\forall \epsilon \in \mathbb{R}$

$\exists n_0 \in \mathbb{N}, \forall n > n_0, |a_n - a| < \epsilon$

$a_n = x_n + iy_n$

$\lim_{n \rightarrow \infty} a_n = x + iy \Leftrightarrow \begin{cases} \lim_{n \rightarrow \infty} x_n = x \\ \lim_{n \rightarrow \infty} y_n = y \end{cases}$

2 28-15:33

$y = f(x)$

$\lim_{x \rightarrow 0} f(x) = 0$

2 28-15:39

$f(x+\delta) = f(x) + \delta \cdot (\dots)$

$\lim_{\delta \rightarrow 0} \dots$

2 28-15:46