

수학에서 의사소통과 L^AT_EX

DG Conference, Jeju Univ.

김영욱

고려대학교

(Jan 2010)

차 례

- 1 What we want
- 2 Communication
- 3 L^AT_EX
- 4 References

MIT 강의 교재 목차 (1)

Part I

- 1 Writing and Work 3
- 2 Collaborative Writing 15
- 3 Your Audience and Aims 27
- 4 Organizing and Drafting Documents 41
- 5 Revising for Organization and Style 51
- 6 Developing Graphics 61
- 7 Design of Page and Screen 89
- 8 Searching the Literature 101
- 9 Documenting Sources 123

MIT 강의 교재 목차 (2)

Part II

- 10 Memos, Letters, and Electronic Mail 137
- 11 Proposals 151
- 12 Progress Reports 183
- 13 Reports 193
- 14 Journal Articles 219
- 15 Oral Presentations 237
- 16 Instructions, Procedures, and Computer Documentation 255
- 17 Electronic Documents 267
- 18 CVs, Résumés, and Job Correspondence 275

차 례

- 1 What we want
- 2 Communication**
- 3 \LaTeX
- 4 References

의사소통 방법

의사소통 도구

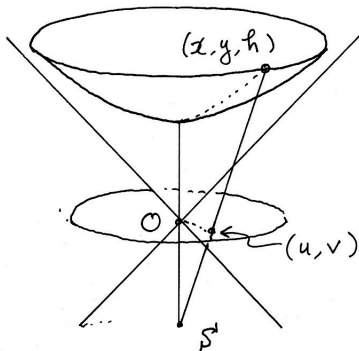
- 1 Conversation
- 2 Chatting, 화상 chatting
- 3 Mail, e-Mail
- 4 Presentation
- 5 Articles (and Books)

의사소통 방법

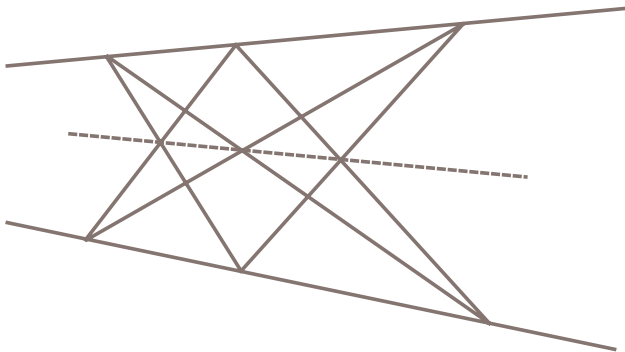
Article 등을 만드는 도구

- 1 손과 연필
- 2 Scanner
- 3 Drawing programs
- 4 Mathematica, Maple, Matlab, etc.
- 5 Word Processor
- 6 L^AT_EX

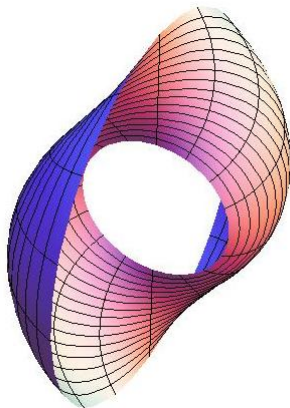
Pen과 Scanner



Drawing program



Mathematica etc.



Word Processor

Theorem 4.1.1. *The set of constructible points in 3-dimensional construction is equivalent to constructible points in 2-dimensional construction. In other words, the set of constructible points is quadratic extensions of $\langle \mathbf{Q}, +, * \rangle$ (for numbers obtained by $+$, $-$, $*$, and $/$ to given unit length 1).*

Proof:

First, the general equation for sphere is

$$(x-a)^2 + (y-b)^2 + (z-c)^2 = r^2$$

and the general equation for plane:

$$ax + by + cz = d$$

Note that both equations still contain only squares with $+$ and \cdot

- Theorem 3.1.** (i) *The conjugate minimal surface of the parabolic helicoid PH is the hyperbolic catenoid HC_1 . Moreover, PH and HC_1 are isometric.*
- (ii) *The conjugate minimal surface of the hyperbolic helicoid HH_α is the hyperbolic catenoid HC_β if $\beta^2 = 1 + \alpha^2$.*

[Proof] (i) **Prof. Shin.** (i) For $f(u) = \log(\sinh u)$ and $r(u) = \log(e^u + 1) - \log(e^u - 1)$, we have

$$f'(u)^2 = 1 + r'(u)^2 = \frac{1}{\sinh^2 u},$$

which implies that PH is isometric to HC_1 .

Moreover, $S_{PH} = JS_{HC_1}$, $T_{PH} = JT_{HC_1}$ and $\nu_{PH} = \nu_{HC_1}$.

(ii) We may assume that f and r satisfy the initial condition

$$(4) \quad \begin{cases} \alpha \sinh f(0) = \beta \sinh r(0), \\ \alpha f'(0) \cosh f(0) = \beta r'(0) \cosh r(0). \end{cases}$$

차 례

- 1 What we want
- 2 Communication
- 3 LaTeX
- 4 References

김영호	14:00~14:30	Riemannian geometry and its related fields
조종택	14:30~15:00	공간과 차원
신해용	15:30~15:50	Minimal Surfaces in $H^2 \times R$ and Conjugate Surfaces of Helicoids
정승달	15:50~16:10	Transverse geometry of a foliation
정민주	16:10~16:30	Transversal harmonic maps and related topics
김영욱	17:00~17:30	수학에서 Communication과 L ^A T _E X
김향숙	17:30~18:00	기하학의 발전에서 여성의 역할

L^AT_EX 사용

`$ G_{-1}(x,y)=x^{n-1}+x^n-1 $`

$$G_{-1}(x,y) = x^{n-1} + x^n - 1$$

`$ 1 + 2 + \cdots + n = \frac{n(n+1)}{2} $`

$$1 + 2 + \cdots + n = \frac{n(n+1)}{2}$$

```

\[ w=\left[
  \begin{array}{ccc}
    w_{0,0} & \cdots & w_{0,n-1} \\
    \vdots & \ddots & \vdots \\
    w_{n-1,0} & \cdots & w_{n-1,n-1}
  \end{array}
\right]
\]

```

$$w = \begin{bmatrix} w_{0,0} & \cdots & w_{0,n-1} \\ \vdots & \ddots & \vdots \\ w_{n-1,0} & \cdots & w_{n-1,n-1} \end{bmatrix}$$


```

\[
D(x, A^k) = {\rm min} \left\{
\begin{array}{ll}
f_i(x^k) - f_i(x), & i=1, \cdots, p \\
-g_j(x), & j=1, \cdots, m
\end{array}
\right.
\]

```

$$D(x, A^k) = \min \left\{ \begin{array}{ll} f_i(x^k) - f_i(x), & i = 1, \cdots, p \\ -g_j(x), & j = 1, \cdots, m \end{array} \right\}$$

차 례

- 1 What we want
- 2 Communication
- 3 LaTeX
- 4 References

사용된 것

- L^AT_EX+ Beamer
- koT_EX2009
- 나눔명조체 + 나눔고딕체
- Minion Pro + Myriad Pro
- MacBook Air
- 삼성 복합기(scanner)
- <http://www.ktug.or.kr/x/>