Á¦ 1 ÁÖ °-ÀÇ³»¿ë (1998³â 3¿ù 2ÀÏ 08:00-10:50)

1. ½Ã°£¼³¸í
   - ¿À´Ã ÀÔÇÐ½Ä°ü°è 80ºÐ -> 60ºÐ
     08:00-09:10 (70ºÐ)
     10:40-10:50 (10ºÐ)

2. 60ºÐ
   1) ±³¼ö¼Ò°³ (5ºÐ)
   2) ÇÐ»ý¼Ò°³ (30ÃÊ, 25¸í, 13ºÐ)
   3) °ú¸ñ¼³¸í (10ºÐ) -> **¼öÇÐÀÇ ÁßÀ¿ä¼º °-Á¶ ¹× µ¿±â°Î¿©**
      (1) ±³À°¸ñÇ¥
      (2) ±³À°³»¿ë
      (3) ±â´ëÈ¿°ú
      (4) Æò°¡¹æ¹ý
      (5) ¿î¿µ°èÈ¹
      - ÀÌ·Ð°-ÀÇ
        º»¹®°ú ¿¹Á¦Ç®ÀÌ ÁßÉ
        ¸®Æ÷Æ®´Â °¡´ÉÇÑ ÀÚÁ¦Åä·Ï ÇÏ°í, °³ÀÎÀÌ Ç® ¼ö ÀÖµµ·Ï.
        ¸ÅÁÖ 1È¸ ÄûÁî ½Ç½Ã (20ºÐÁ¤µµ, 3-5¹®Á¦)
      - ½Ç½À¿î¿µ (¹ÚÁ¾Áø±³¼ö)
        °¢ ¼ÒÀý ¸¶´Ù ¹®Á¦°¡ ÀÖ´Âµ¥, ¸ðµÎ Ç®¾î ÁÙ ¼ö´Â ¾ø°í,
        ÇÐ»ý¹®Á¦Ç®ÀÌ ¹×³¸í (40ºÐ)
        ±³¼ö¹®Á¦Ç®ÀÌ ¹×³¸í (40ºÐ)
        ÁúÀÇ½Ã°£ (20ºÐ)

   4) Áøµµ (27ºÐ)
      - ¿øÄ¢
        (1) worming up ½Ã°£ÀÌ ÇÊ¿ä
        (2) Áú¹®À» ¸¹ÀÌ ÇÒ °ÍÀÓ.
        (3) ½Ã°£¾È¹è´Â ³»°¡ ¾Ë¾Æ¼ ÇÒ °ÍÀÓ.
            - ´ÙÀ½ÁÖºÎÅÍ 2ÁÖ¤µµ´Â 50ºÐ ¼ö¾÷, 10ºÐ ÈÞ½Ä
              08:00-08:50, 09:00-09:50, 10:00-10:50
            - ÃÖÁ¾ÀûÀ¸·Î´Â 70ºÐ, 80ºÐ
              08:00-09:10, 09:20-10:40
   5) Á¤¸® (5ºÐ)

¿ø¼: Calculus (5/E)
ÀúÀÚ: Howard Anton
ÃâÆÇ»ç: John Wiley & Sons, INC

¸ñÇ¥: ¼öÀÇ Ã¼°è¿Í Àý´ëÄ¡, ÁÂÇ¥¿Í ±×·¡ÇÁ, Á÷¼±°ú °Å¸®, ¿ø ¹× ÀÌÂ÷¹æÁ¤½ÄÀÇ ÀÌÇØ

< ¾Ï±â»çÇ× >
$\sqrt{2}$ = 1.414213.....
$\sqrt{3}$ = 1.732050.....
p = 3.141592.....
sin10¡Æ= 0.1736.....

Á¤ÀÇ¸¦ Á¦´ë·Î ¾ËÀÚ.

1. ¼öÀÇ Ã¼°è

ÀÚ¿¬¼ö, Á¤¼ö, À¯¸®¼ö, ¹«¸®¼ö, ½Ç¼ö, º¹¼Ò¼ö

ÀÚ¿¬¼ö=¾çÀÇ Á¤¼ö: 1,2,3,4,5,.....
Á¤¼ö: ¾çÀÇ Á¤¼ö + 0 + À½ÀÇ Á¤¼ö
À¯¸®¼ö: Á¤¼ö a,b (b¡Á0)¸¦ ½á¼- a/bÀÇ ²Ã·Î ³ªÅ¸³»Áø ¼ö
- À¯ÇÑ¼Ò¼ö: 1/2, 0.75, ...
- ¼øÈ¯¼Ò¼ö (¼øÈ¯ÇÏ´Â ¹«ÇÑ¼Ò¼ö): 1/3, 2/3,.....
¹«¸®¼ö: º¸¼øÈ¯ ¹«ÇÑ¼Ò¼ö
- Á¦°ö±Ù($\sqrt{2}$, $\sqrt{3}$)
- º¸¼øÈ¯ ¹«ÇÑ¼Ò¼ö 1.4142135.....,
- ¿øÁÖÀ², »ï°¢ÇÔ¼ö°ª
½Ç¼ö = À¯¸®¼ö + ¹«¸®¼ö

¾ç¼öÀÇ Á¦°öÀº ¾ç¼ö, À½¼öÀÇ Á¦°öÀº ¾ç¼ö, ÀÌÀÇ Á¦°öÀº 0ÀÌ´Ù.
-> ¾î¶°ÇÑ ½Ç¼öµµ ±× Á¦°öÀº À½¼ö¡ µÇÁö ¾Ê´Â´Ù.

¹æÁ¤½Ä $x^2=-1$ ÀÇ ÇØ´Â ½Ç¼öÀÇ ¹üÀ§¿¡¼´Â ±¸Ò ¼ö ¾ø´Ù.
ÀÌ·¯ÇÑ ¹æÁ¤½ÄÀ» Ç®·Á¸é ¼öÀÇ ¹üÀ§¸¦ È®Àå ÇØ¾ß ÇÑ´Ù.
Á¦°öÇÏ¸é -1ÀÌ µÇ´Â ¼ö¸¦ »ý°¢ÇÏ¿© ($i^2=-1$) Çã¼ö¸¦ µµÀÔÇÏ¿© ½Ç¼ö¿Í Çã¼ö¸¦ ÇÕÃÄ **º¹¼Ò¼ö**¶ó°í ÇÑ´Ù.

<º¹¼Ò¼öÀÇ Á¤¸®>
a,b¸¦ ½Ç¼ö¶ó°í ÇÒ ¶§, $a+bi$ ²ÃÀÇ ¼ö¸¦ º¹¼Ò¼ö¶ó°í ÇÑ´Ù.
(a¸¦ ½Ç¼öºÎ, b¸¦ Çã¼öºÎ¶ó°í ÇÑ´Ù.)

$\frac{0}{0}, \frac{p}{0}$ **ÀÇ ²Ã: Á¤ÀÇÇÒ ¼ö ¾ø´Ù. = ¡°°ÎÁ¤¡±**

3. 2Â÷ ¹æÁ¤½ÄÀÇ ÇØ¹ý (±ÙÀÇ °ø½Ä/ÆÇ°°½Ä)

$x^2 + 3x - 2 = 0$

$4x^2 + 4x + 1 = 0$

$x^2 - x + 3 = 0$

(¼·Î ´Ù¸¥ µÎ ½Ç±Ù, ¼·Î °°Àº µÎ ½Ç±Ù,
¼·Î ´Ù¸¥ µÎ Çã±Ù)

$ax^2 + bx + c = 0 (a \neq 0)$ **ÀÇ ÇØ¸¦ ±¸ÇØº¸ÀÚ.**

1) ¾ç°Èº» a·Î ³ª´©¸é

$$x^2 + \frac{b}{a}x + \frac{c}{a} = 0$$

2) ´ÙÀ½ÀÇ Á¶ÀûÀ» °¡Ï¸é,

$$x^2 + \frac{b}{a}x + (\frac{b}{2a})^2 - (\frac{b}{2a})^2 + \frac{c}{a} = 0$$

$$(x + \frac{b}{2a})^2 = \frac{b^2 - 4ac}{4a^2}$$

$$\therefore x + \frac{b}{2a} = \pm\frac{\sqrt{b^2 - 4ac}}{2a}$$

$$\therefore x = \frac{b}{2a} \pm \frac{\sqrt{b^2 - 4ac}}{2a}$$
$$= \frac{b}{2a} \pm \frac{\sqrt{b^2 - 4ac}}{2a}$$

4. ºÎµî½ÄÀ» Ç®°í ±×¸®±â

$$3x - 2 < 8$$

5. ´ë¼Ò°ñ±³ - > Á¤¸® 1.1.1

6. ÁýÇÕ

- **¼ÓÇÑ´Ù, ¼ÓÇÏÁö ¾Ê´Â´Ù**
- **°øÁýÇÕ**
- **ºÎºÐÁýÇÕ**
- **ÇÕÁýÇÕ**
- **±³ÁýÇÕ**
- **¿ø¼Ò³ª¿-¹ý & Á¶°ÇÁ¦½Ã¹ý**

7. ºÎµî½ÄÀÇ ÇØ

- **Æó±¸°£, °³±¸°£, ¹Ý°³±¸°£**
- **¿¹Á¦**

¢Ð 1.1 p.3

Mathematica

1. Mathematica¶õ?
   ÄÄÇ»ÅÍ·Î ¼öÇÐÀ» ÇÏ±â À§ÇÑ Ã¼°è, ¶Ç´Â
   ¼öÇÐ°ú ±× ÀÀ¿ëÀ» À§ÇÑ ´Ù¸ñÀû ¼ÒÇÁÆ®¿þ¾î

   ¼öÇÐÀÌ Àû¿ëµÇ´Â ¸ðµç ºÐ¾ß¿¡¼ÀÇ °è»ê±â¿ªÇÒ, ±âÈ£Ã³¸®,
   3Â÷¿ø ±×·¡ÇÈÃ³¸®, ½Ã¹Ä·¹ÀÌ¼Ç, ¸ðµ¨¸µ µî¿¡ ÀÌ¿ëÇÒ ¼ö
   ÀÖ´Â °í±Þ ÇÁ·Î±×·¡¹Ö ¾ð¾î

2. Mathematica°¡ ÇÏ´Â ÀÏÀº?
   1) ¼öÄ¡°è»ê (numerical computation)
   2) ±âÈ£°è»ê (symbolic calculation)
   3) ±×·¡ÇÈÃ³¸® (graphical operation)

3. MathematicaÀÇ ¿ª»ç´Â?
   - 1988³â 6¿ù version 1 ¼Ò°³
   - 1991³â 1¿ù version 2 ¼Ò°³

4. Mathematica°¡ ÀÖ´Â °÷Àº?
   simtnt_w01 \ Mathematica \ Cdsetup.exe

5. Âü°í ¹®Çå
   ¸Å½º¸ÅÄ« ÀÔ¹®¿¡¼ È°¿ë±îÁö
   ¼º¾È´ç
   °»ó±Õ, ³²±â¿ø, Àü±ÔÃ¢ °øÀú