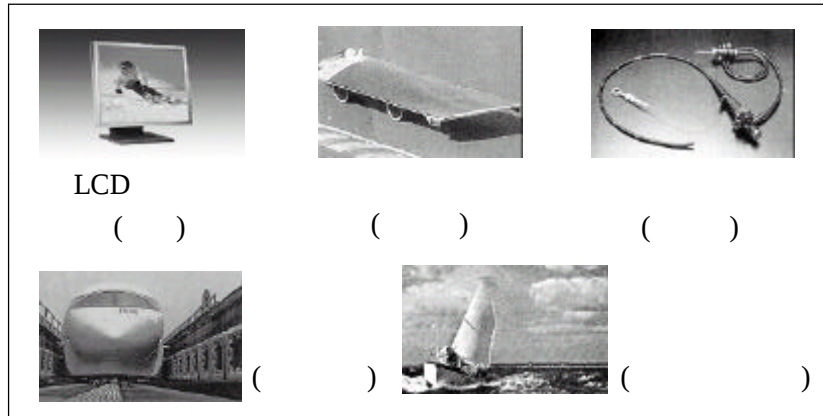


33.

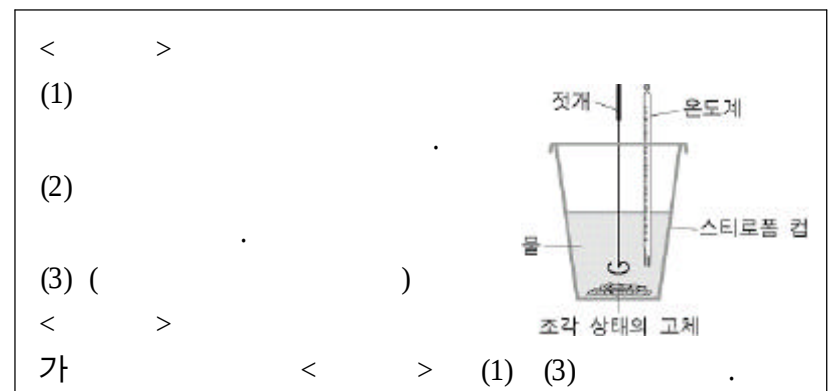
가



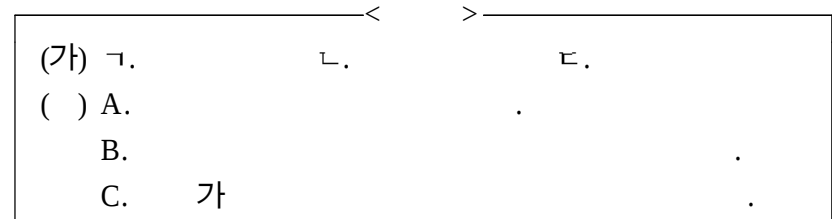
?

35.

가



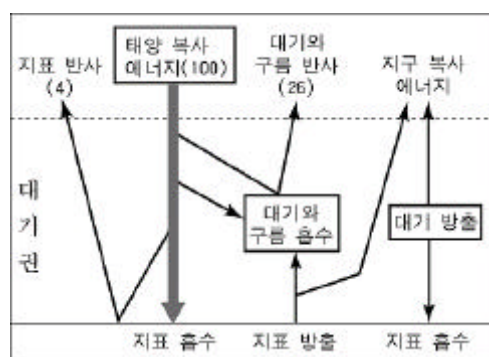
(가) ,
(3) 가
?



_____	_____ (3)
ㄱ, ㄴ	A
ㄱ, ㄴ	B
ㄱ, ㄷ	A
ㄱ, ㄷ	B
ㄴ, ㄷ	C

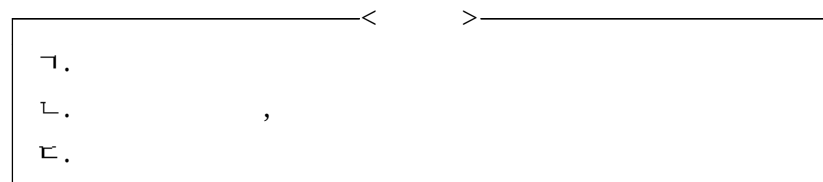
34.

100



가 가

< > ? [2]

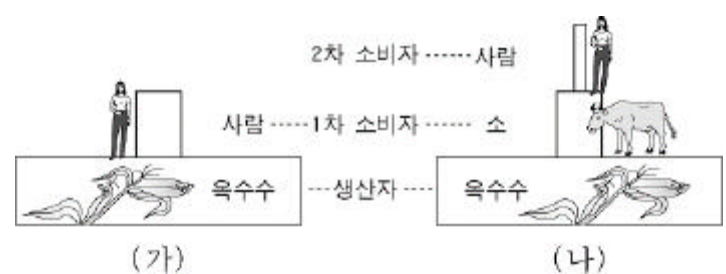


ㄱ ㄱ, ㄴ ㄱ, ㄷ ㄴ, ㄷ ㄱ, ㄴ, ㄷ

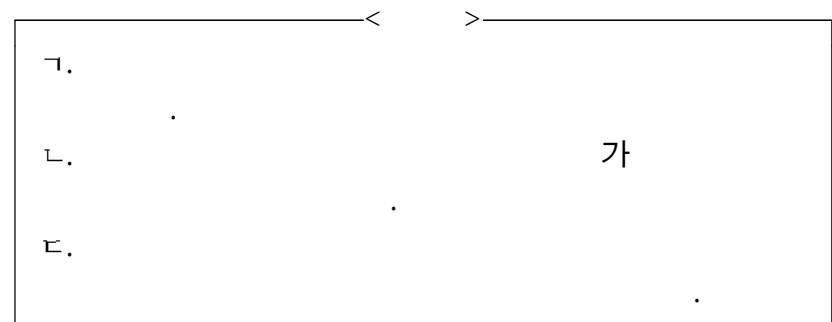
36.

(가)

, ()



?



ㄱ ㄱ, ㄴ ㄱ, ㄷ ㄴ, ㄷ ㄱ, ㄴ, ㄷ



37.

< >

(1) , 가

(2)

(3)

(4) (1) (3)

가 < >

? [2]

< >

ㄱ. .

ㄴ. 가 .

ㄷ. 가 가 .

ㄱ, ㄴ

ㄱ, ㄷ

ㄴ, ㄷ

38.

< >

(1)

(2) A

(3)

(4) pH

(5) B

	(3) pH	(5) pH
	3.2	7.4
	7.0	5.7

< >

?

< >

ㄱ. B가 가 .

ㄴ. A 가 B가 .

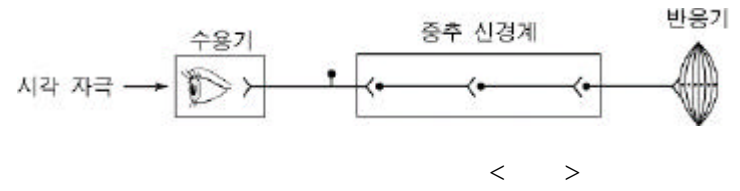
ㄷ. 가 가 .

ㄱ, ㄴ

ㄱ, ㄷ

ㄴ, ㄷ

39.



?

< >

ㄱ. .

ㄴ. 가 .

ㄷ. , , .

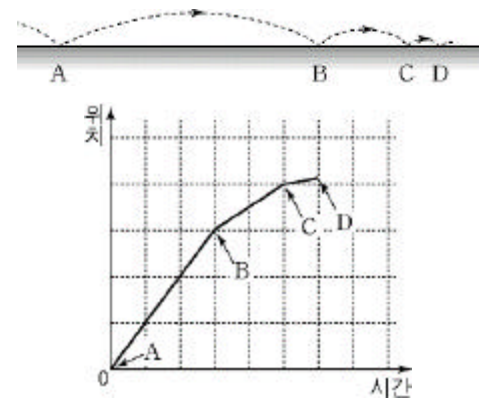
ㄱ, ㄷ

ㄴ, ㄷ

40.

가 가 ,

A, B, C, D



< > ?

(,) [2]

< >

ㄱ. AB .

ㄴ. BC CD .

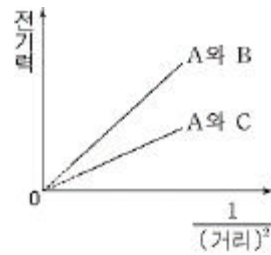
ㄷ. .

ㄱ, ㄴ

ㄴ, ㄷ

41. A B C
가 A B, A C

$$\frac{1}{(\quad)^2}$$



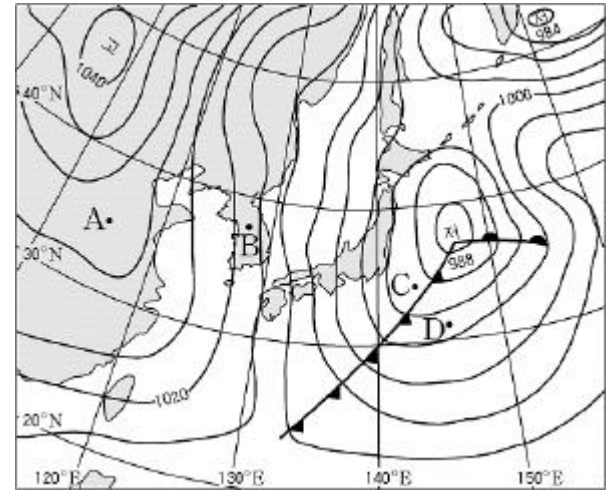
< >

?

- ㄱ. B C
ㄴ. B C
ㄷ. 가 2 가 $\frac{1}{2}$ 가
ㄹ. 가 2 가 $\frac{1}{2}$ 가
ㅁ. 가 2 가 $\frac{1}{2}$ 가

ㄱ, ㄴ, ㄷ, ㄹ, ㅁ

- 43.



< >

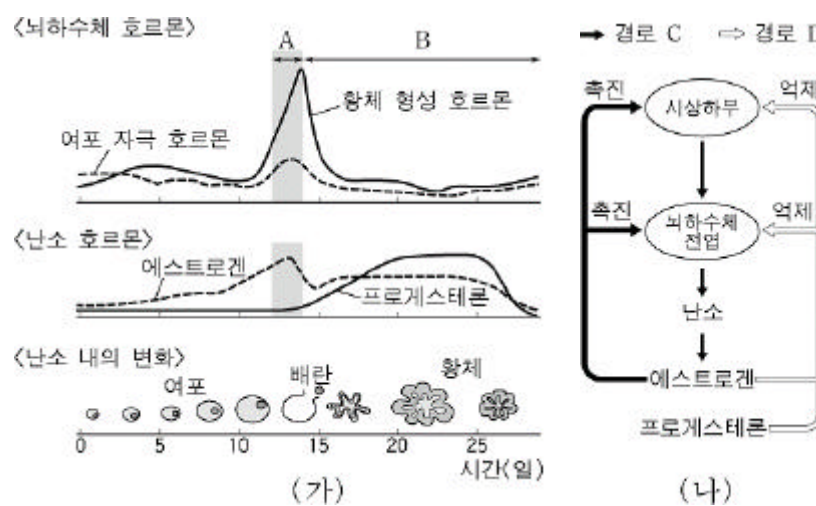
? [2]

- ㄱ. A B
ㄴ. C 가
ㄷ. D
ㄹ. 가
ㅁ. 가

ㄱ, ㄴ, ㄷ, ㄹ, ㅁ

42. (가)

, ()



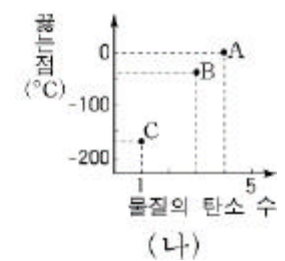
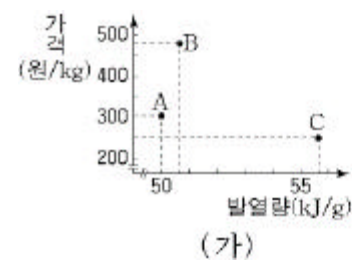
< >

? [2]

- ㄱ. A
ㄴ. B D
ㄷ. 가
ㄹ. 가
ㅁ. 가

ㄱ, ㄴ, ㄷ, ㄹ, ㅁ

44. (가) A, B, C 가
, () A, B, C
, (, A, B, C)



< >

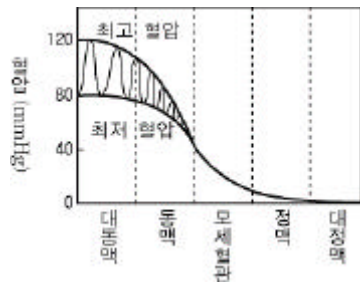
?

- ㄱ. A, B, C가
ㄴ. 가 C
ㄷ. A B (-15)
ㅁ. B
ㅂ. B

ㄱ, ㄴ, ㄷ, ㄹ, ㅁ



45.



	(mm)	(mm)	(cm ²)
	25	2	4.5
	4	1	20
	0.006	0.001	4500
	5	0.5	40
	30	1.5	18

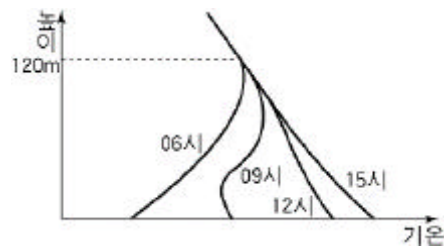
가 ?

가

가

가

46.



가 ?

120 m

47.

가 가

가

1, 17, 18

1 (, A L

(), () .

	1	17	18
2	A 181 1342	E -220 ()	I -249 -246
3	B 98 883	F -102 -34	J -189 -186
4	C () ()	G () 59	K () -153
5	D 39 688	H 114 184	L -112 -108

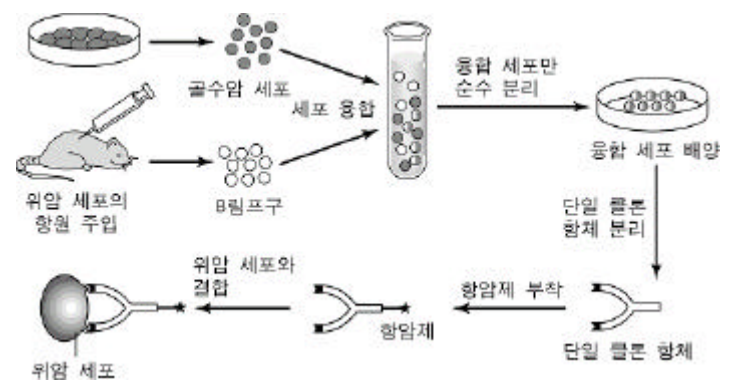
< >

? [2]

ㄱ. 25	2
ㄴ. C, G	63 C
ㄷ. E	I
ㄹ. K	-189 -153

ㄱ, ㄴ ㄴ, ㄷ ㄷ, ㄹ
ㄱ, ㄷ, ㄹ ㄴ, ㄷ, ㄹ

48.



< >

? [2]

ㄱ.	B
ㄴ.	가
ㄷ.	-
ㄹ.	-

ㄱ, ㄴ ㄴ, ㄷ ㄴ, ㄹ
ㄱ, ㄴ, ㄹ ㄴ, ㄷ, ㄹ

49. (71)

가 < (가) (나)

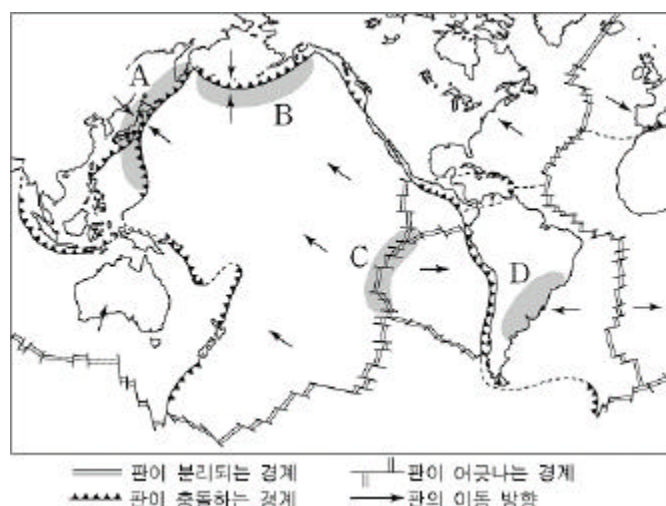
ㄱ. (가) () 0 .
 ㄴ. () (가)
 ㄷ. () .
 ㄹ. () 가 .

$$\neg \qquad \neg, \bot \qquad \neg, \top \qquad \bot, \top \qquad \neg, \bot, \top$$

50.

D (■)

A, B, C,



가

?

[21]

A, B

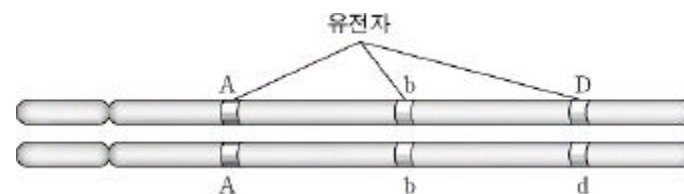
A, C

B, C

A, C, D

B, C, D

51.



 ? [2]

가

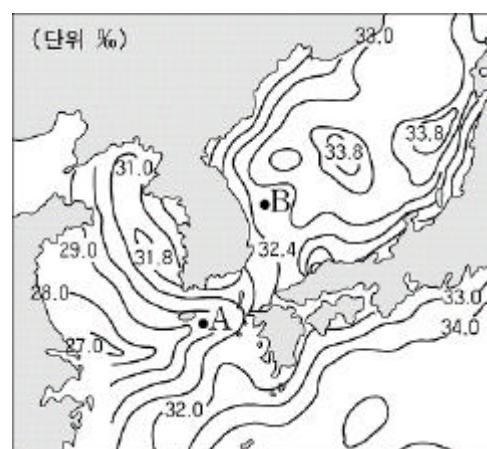
A b 가 ,
D d

가 ,

52.

8

A, B



(: ‰)

	A	B
NaCl	22.9	25.3
MgCl ₂	3.2	3.5
MgSO ₄	()	1.6
CaSO ₄	()	1.2
	()	1.0
	(x)	32.6

< >

? [2]

¬. A 가

⌊. A

$\mathbb{E}_\cdot$
A

 χ

7

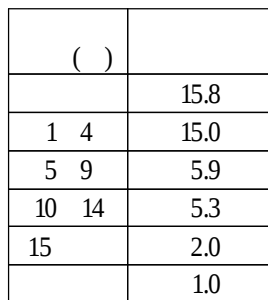
 $\mathbb{E}$ $\neg, \perp$ $\mathbb{L}, \mathbb{E}$ $\neg, \sqsubset, \sqsupseteq$

■

?

•

,



?

一

1

,

—

?

57.

(가) (W) 가 가 (W)

가

$W(s) \rightarrow W(g)$

() (W) 가 (X_2)

$W(g) + X_2(g) \rightarrow WX_2(g)$

() (WX₂)

(W)

(X_2)

() (W)

가 가

? [2]

ㄱ. (가) 가

ㄴ. () 가

ㄷ. () () 가

ㄱ, ㄴ ㄴ, ㄷ ㄱ, ㄷ, ㄴ ㄱ, ㄷ, ㄴ, ㄷ

58.

질량 (치구=1)

반지름 (치구=t)

밀도 (g/cm³)

수금지화복도천해

선선구선선선선선

A, y

x y

(A)

(B)

x

< >

A .)

? (,

_____ x _____ y

ㄱ. _____

ㄴ. _____

ㄷ. _____

ㄱ ㄷ ㄱ, ㄴ

ㄴ, ㄷ ㄱ, ㄴ, ㄷ

59.

220V 콘센트 변압기 전열기

1차 코일 2차 코일

1		2	
(V)	(A)	(V)	(A)
220	3	110	6

< > ?

[2]

ㄱ. 2

2 6A

ㄴ. 1 $\frac{1}{2}$ 2

ㄷ. 1 660 Wh

ㄱ ㄴ ㄱ, ㄴ ㄱ, ㄷ ㄴ, ㄷ

60.

A, B,

C

가

: dB()

방음판(A~C)

소음 발생기(1~2대)

소음 측정기

	A	B	C
1	70	67	64
2	73	70	67

< >

? (, 2 가 2

.) [2]

ㄱ. A, B, C 가 가 C

ㄴ. B $\frac{1}{4}$

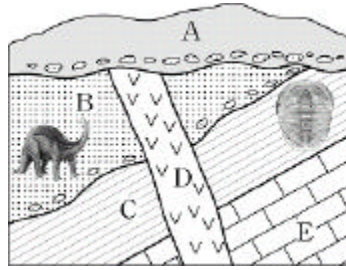
ㄷ. 가 1 A B 64 dB

ㄱ ㄴ ㄱ, ㄴ ㄴ, ㄷ ㄱ, ㄴ, ㄷ

61.

< >

?

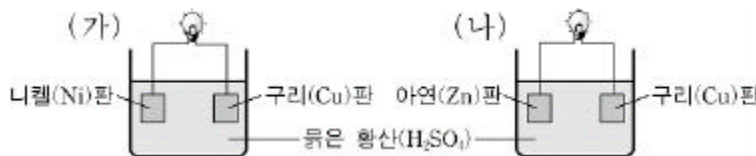


- ㄱ. E → C → B → D → A
 ㄴ. B C
 ㄷ. C B
 ㄹ. C B

ㄱ, ㄷ ㄱ, ㄹ ㄴ, ㄹ
 ㄱ, ㄴ, ㄷ ㄴ, ㄷ, ㄹ

62.

$Zn > Ni > (H) > Cu$, $Zn^{2+}, Ni^{2+}, Cu^{2+}$



(가) ()
 < > ? [2]

- ㄱ. (가) () 가
 ㄴ. (가) ()
 ㄷ. ()
 ㄹ. (가) ()

ㄱ, ㄴ ㄴ, ㄹ ㄱ, ㄴ, ㄷ
 ㄱ, ㄷ, ㄹ ㄴ, ㄷ, ㄹ

63.

가

(가) 가 ,
 () 가 .
 () 가 , 가 50 .

가

?

(가) () ()

64.

가

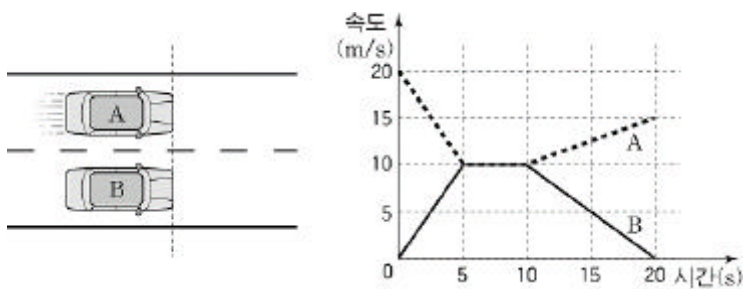


< >
 ○ ○
 ○

(가)

() 가 ? [2]
 A, E B, D A, C, E
 B, D, E B, C, D, E

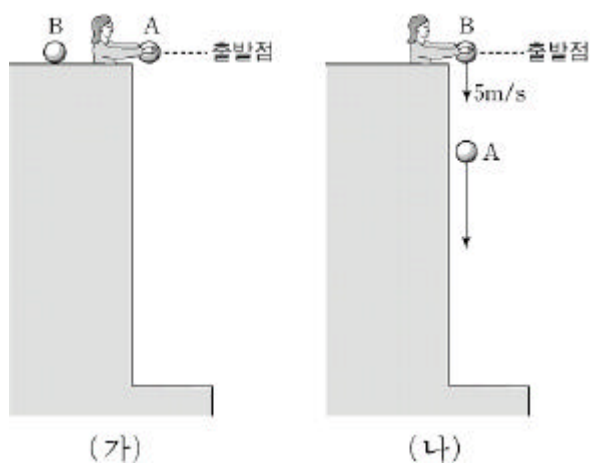
65. 0 A, B가



?

ㄱ. 0	5	가	.
ㄴ. 5	10	A B	.
ㄷ. 10	20	A ()	.
	B 2		.

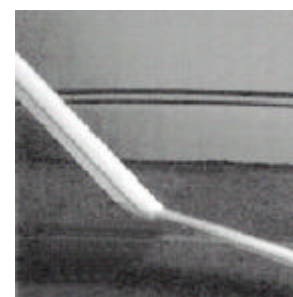
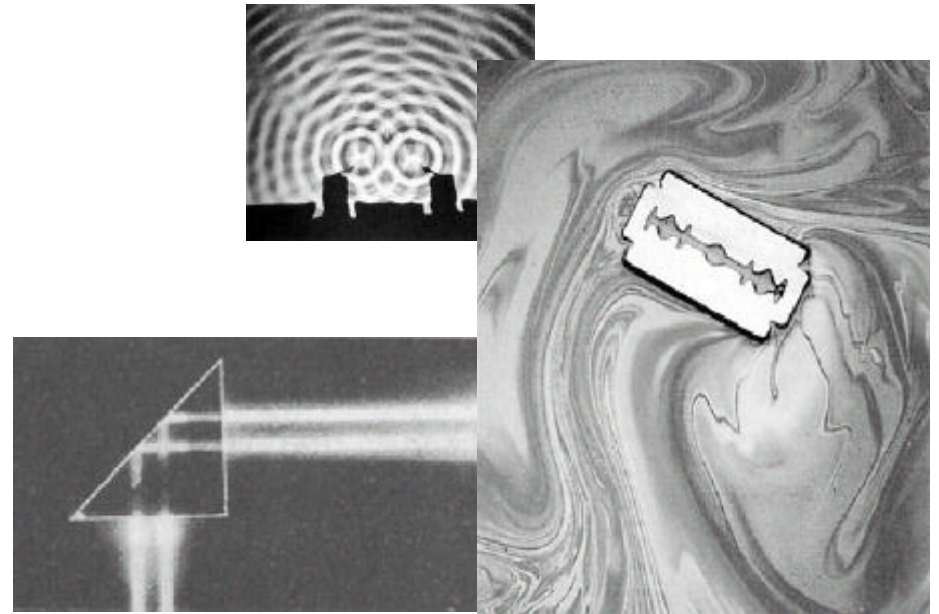
66. (가) A 가
() 1 B 5 m/s



? (, 가 9.8 m/s^2 ,)

ㄱ.	A B	.
ㄴ.	A B	.
ㄷ.	A B	.
	가	.

67.



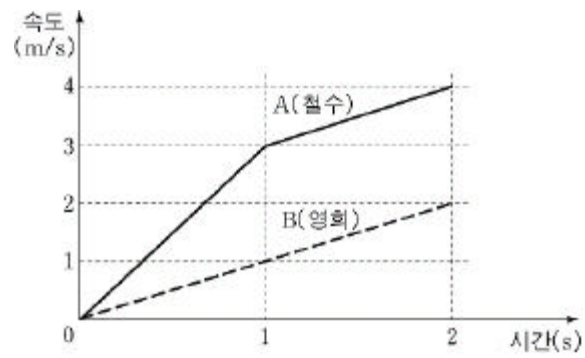
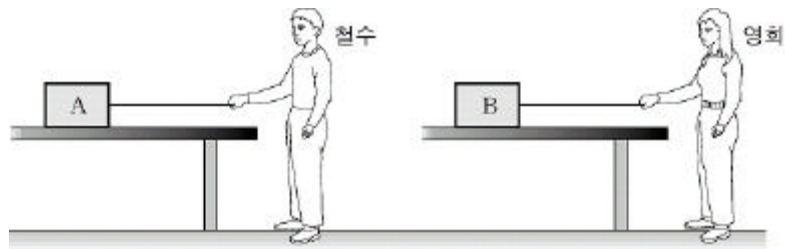
68.

가
A가 B
가 B
A, B , A가 가 ,
< > ? [2]

ㄱ.	A	$2v$	.
ㄴ.	A	v	.
ㄷ.	$\frac{1}{2}$	.	.

69.

가
A, B

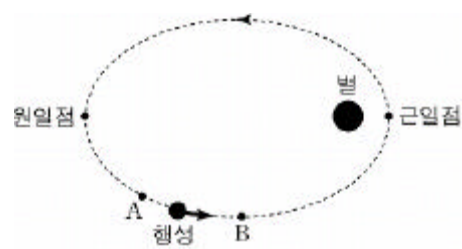


가 < >
? (,)
[2]

ㄱ. 0	1	가	.
ㄴ. 1	2		.
ㄷ. 0	2	가	B

70.

가 , A B



?

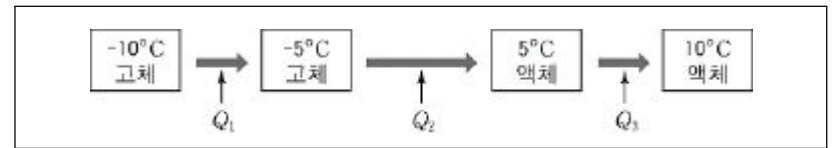
ㄱ.		.
ㄴ.	A B	.
ㄷ.	A B	가 .

71.

- 10

10

Q_1, Q_2, Q_3 가

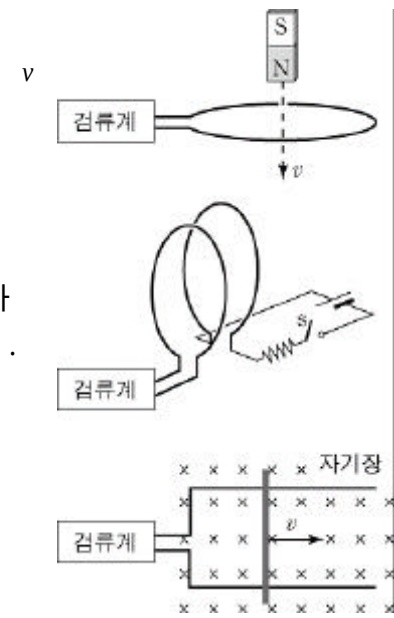


가 0 $Q_1 < Q_3$,
< > ? [2]

ㄱ.	가	.
ㄴ. 5	가 -5	Q_2 .
ㄷ. 0	$Q_2 = (Q_1 + Q_3)$.	

72.

< >
(가)



()

가

()

v

< >
A.

B.

C.

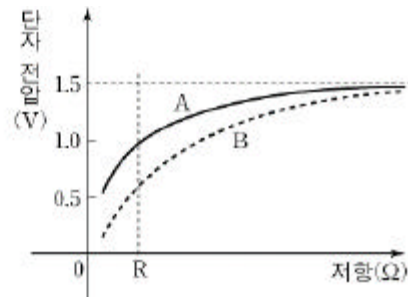
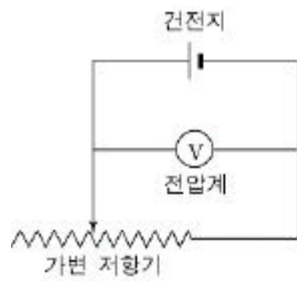
가 .

? (,

.)

(가)	A
(가)	B
()	C
()	B
()	C

73. A, B
가



< > ?

[2]

< >

ㄱ. 0.75 V .

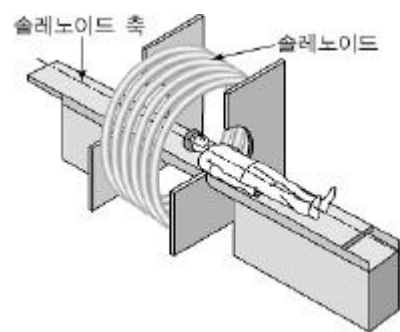
ㄴ. R A .

ㄷ. R 가 A

가 B .

ㄱ, ㄴ, ㄷ, ㄱ, ㄴ, ㄷ, ㄷ

74. (MRI)



가

< >

?

< >

ㄱ. 가 가 .

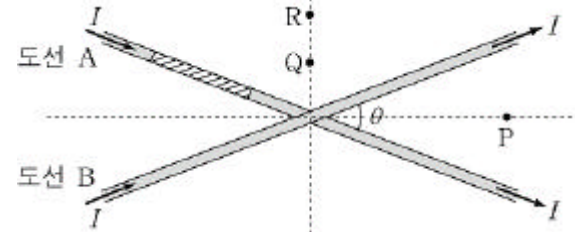
ㄴ. 가 .

ㄷ. 가 .

ㄱ, ㄴ, ㄷ, ㄱ, ㄴ, ㄷ, ㄱ, ㄴ

75. I가 가

A, B가
. P, Q, R



< >

?

(, , $0^\circ < \theta < 90^\circ$.)

< >

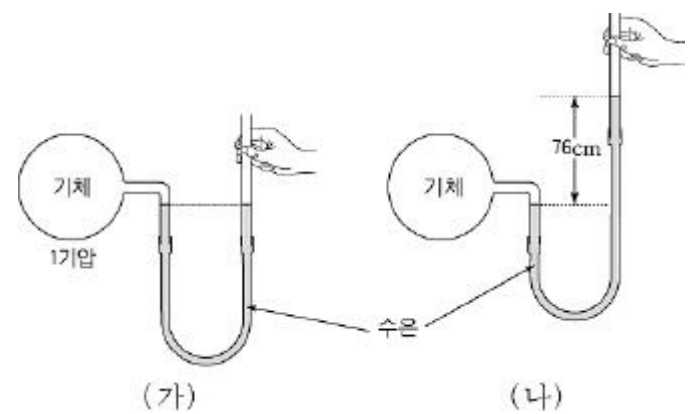
ㄱ. P .

ㄴ. Q R .

ㄷ. A B .

ㄱ, ㄴ, ㄷ, ㄱ, ㄴ, ㄷ, ㄱ, ㄴ

76. (가) 1 가
가 ()
가 76 cm



() < >

? (, , 1 , 1 76 cmHg .) [2]

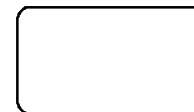
< >

ㄱ. 2 가 .

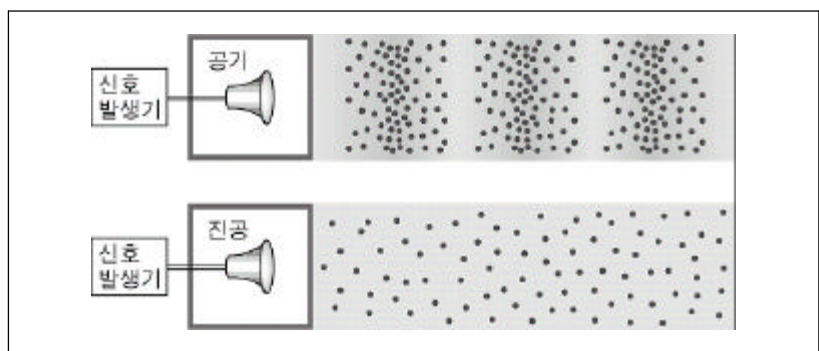
ㄴ. .

ㄷ. 2 가 .

ㄱ, ㄴ, ㄷ, ㄱ, ㄴ, ㄷ, ㄱ, ㄴ



77. 가
가



< > ?

ㄱ. .
 ㄴ. .
 ㄷ. .

ㄱ ㄴ ㄱ, ㄴ
 ㄱ, ㄷ ㄴ, ㄷ

78. .

< >
 ...
 85(⁸⁵₃₆Kr) 가 (²³⁹₉₄Pu) ...

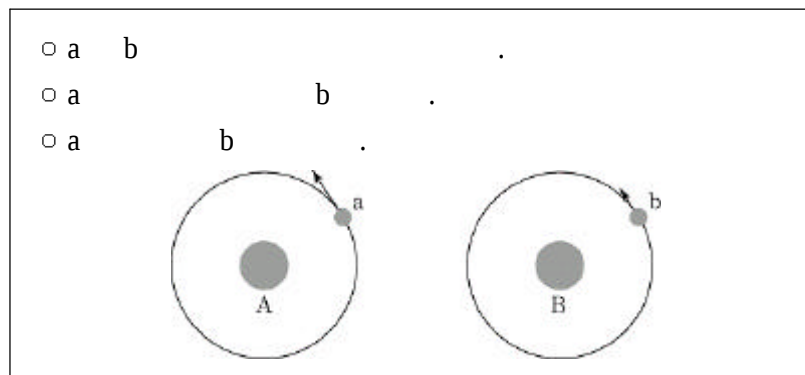
< >
 ○ ²³⁵₉₂U ²³⁸₉₂U .
 ○ ²³⁵₉₂U .
 ○ ²³⁸₉₂U .

가
 < > ?
 [2]

ㄱ. ²³⁵₉₂U ⁸⁵₃₆Kr
 56 (Ba) .
 ㄴ. ²³⁸₉₂U (β)
²³⁹₉₄Pu .
 ㄷ. ⁸⁵₃₆Kr ¹⁴⁸₅₆Ba ²³⁵₉₂U .

ㄱ ㄴ ㄱ, ㄴ
 ㄴ, ㄷ ㄱ, ㄴ, ㄷ

79. A, B a, b .



< >

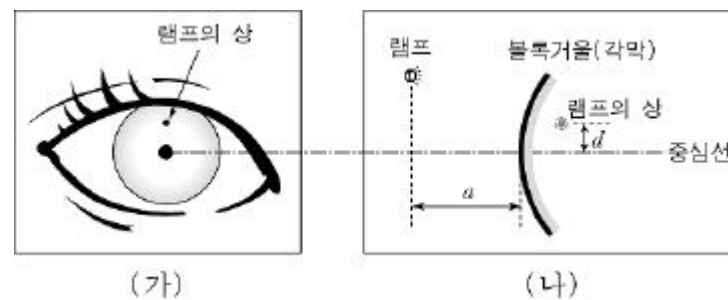
? (,
 .) [2]

ㄱ. a b .
 ㄴ. a 가 b .
 ㄷ. A B .

ㄱ ㄴ ㄱ, ㄷ
 ㄴ, ㄷ ㄱ, ㄴ, ㄷ

80. (가)

,
 () , a
 d .



< >

? (,
 .) [2]

ㄱ. (가) .
 ㄴ. () a가 가 d가 가 .
 ㄷ. () 가 d가 .

ㄱ ㄴ ㄷ ㄱ, ㄴ ㄱ, ㄷ

*
 ○ ()
 ○ .

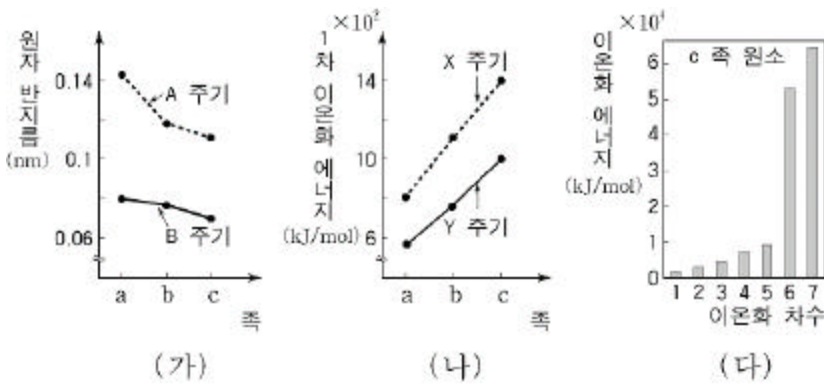
II

65. . (, A D)

	1s	2s	2p	3s	3p
A	••	••	• •		
B	••	••	•••••	•	•• • •
C	••	••	•••••	••	•• • •
D ²⁻	••	••	•••••	••	•••••

- _____ ?
- A .
- B .
- 가 가 B .
- C D²⁻ .
- C D .

66. (가) () 가 (a, b, c) 2, 3 1



? [2]

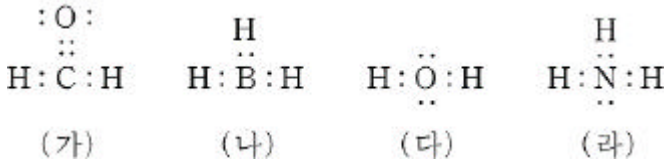
ㄱ. A Y .

ㄴ. c 가 6 .

ㄷ. X b .

- ㄱ ㄴ ㄱ, ㄷ
- ㄴ, ㄷ ㄱ, ㄴ, ㄷ

67. HCHO, BH₃, H₂O, NH₃ .



< >

?

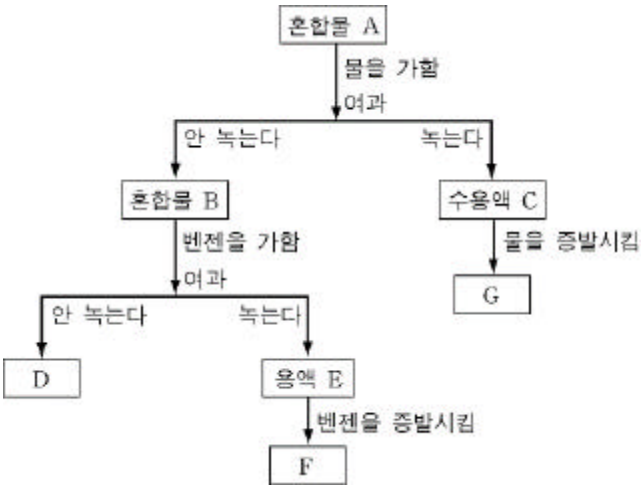
ㄱ. (가) () .

ㄴ. 가 () .

ㄷ. .

- ㄱ ㄴ ㄷ ㄱ, ㄴ ㄴ, ㄷ

68. A 가 D, F, G .



C, D, E 25

C	
D	
E	

< >

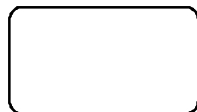
? [2]

ㄱ. D .

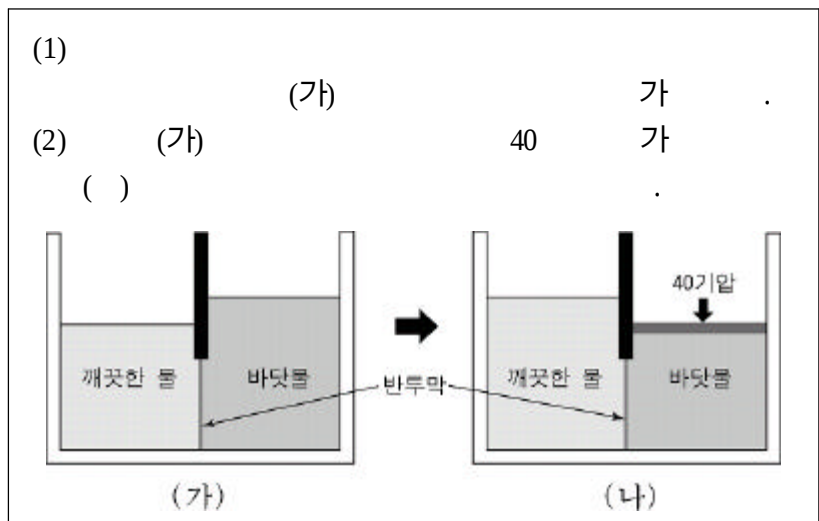
ㄴ. F .

ㄷ. G 가 .

- ㄱ ㄴ ㄷ ㄱ, ㄴ ㄴ, ㄷ



69.



? [2]

ㄱ. (가) 40 .
 ㄴ. (가) .
 ㄷ. () .

ㄱ ㄴ ㄷ ㄱ, ㄴ ㄴ, ㄷ

70.

96%() (H₂SO₄) 0.1M 1L

(가) 0.1M 1L ag
 () = — 96% (V)
 () 96% (V) .
 () () 96% 200 mL 가 .
 () () 1L .
 () .

? (, H₂SO₄ 98 , 96%
 1.84 g/cm³ .)

ㄱ. (가) a 98 .
 ㄴ. () V $\frac{a}{1.84} \times \frac{1}{0.96}$ mL .
 ㄷ. () .
 ㄹ. () .

ㄱ, ㄴ ㄴ, ㄷ ㄷ, ㄹ
 ㄱ, ㄴ, ㄷ ㄴ, ㄷ, ㄹ

71.

A

< >
 (1) 가 .
 (2) A .

	(가)	()
()	10	30
()	1	1
()	0.012	0.042
(mL)	300	300

? (, A 가 .)

ㄱ. (가) () A
 ㄴ. A
 ㄷ. A A
 ㄹ. (가) 30 , .

ㄱ, ㄴ ㄴ, ㄷ ㄷ, ㄹ
 ㄱ, ㄷ, ㄹ ㄴ, ㄷ, ㄹ

72.

A, B, C, D

	A	B	C	D
()	60.1	48.7	112.5	108.0

? [2]

ㄱ. A D .
 ㄴ. A가 B A가
 ㄷ. A Br₂ D Cl₂ .
 ㄹ. B D .

ㄱ, ㄴ ㄴ, ㄷ ㄷ, ㄹ
 ㄱ, ㄷ, ㄹ ㄴ, ㄷ, ㄹ

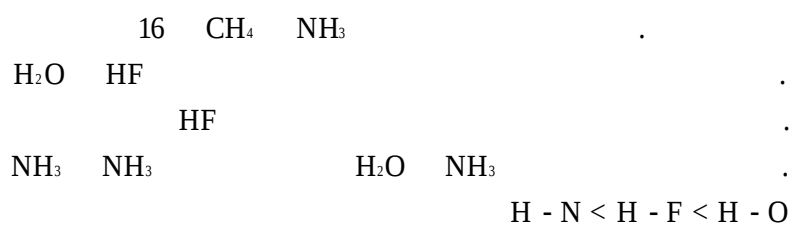
73.



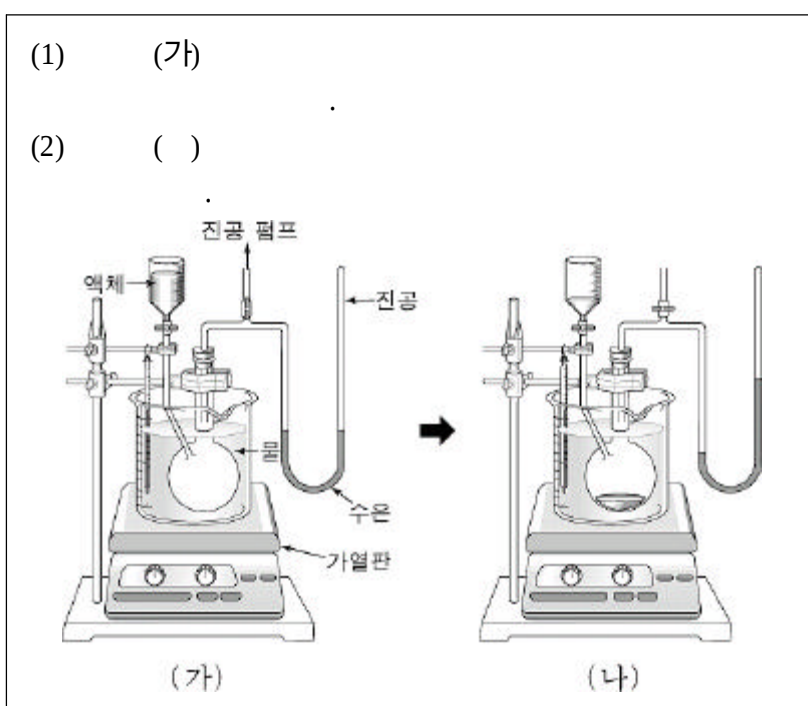
가

()	(NH ₃)	(H ₂ O)	(HF)
	17	18	20
()	-33	100	20

? [2]



74.



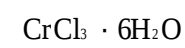
< >

?

ㄱ.	ㄴ.
ㄷ.	ㄹ.

ㄱ, ㄴ ㄱ, ㄷ ㄴ, ㄹ
ㄱ, ㄷ, ㄹ ㄴ, ㄷ, ㄹ

75.



○	가	가	, 6	.
○		H_2O		.
○	가		1	.
		H_2O		.
			H_2O	
	A		2	
	B		1	
	C		0	

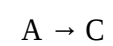
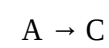
< >

? [2]

ㄱ. A	< >	(AgNO ₃)
ㄴ. B		[CrCl(H ₂ O) ₅] ²⁺
ㄷ. 가		가 C
ㄹ.		

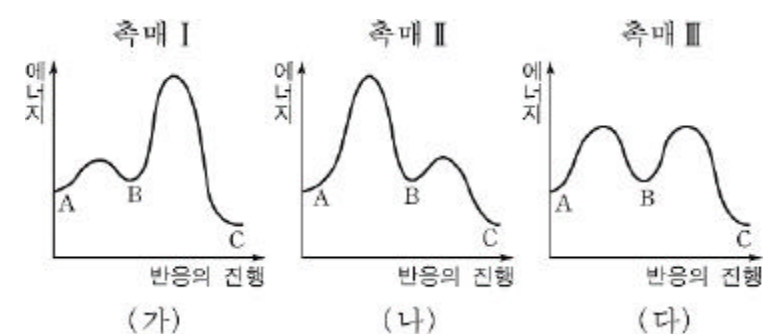
ㄱ, ㄴ ㄱ, ㄹ ㄴ, ㄷ
ㄱ, ㄷ, ㄹ ㄴ, ㄷ, ㄹ

76.



1	: A → B
2	: B → C

가

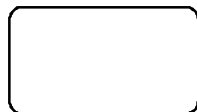


< >

? (,)

ㄱ. 1	가	가	(가)	.
ㄴ. ()		1		.
ㄷ. C	가	가	()	.

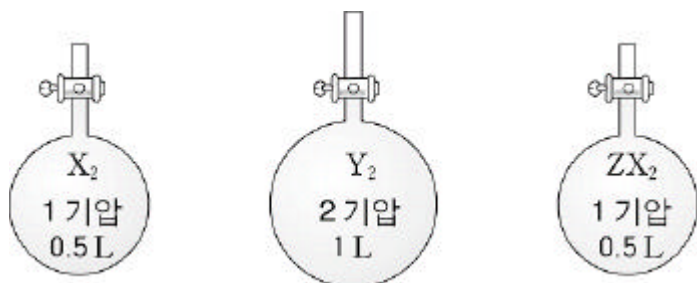
ㄱ ㄴ ㄷ ㄱ, ㄴ ㄱ, ㄷ



77.

가 (X₂, Y₂, ZX₂)

. (, X, Y, Z)



	X ₂	Y ₂	ZX ₂
(g)	0.64	0.16	0.88

< >

? (, 가)

ㄱ. Y ₂	ZX ₂	4	.
ㄴ. X ₂	Y ₂	16	.
ㄷ. Z	Y	6	.

ㄱ ㄷ ㄱ, ㄴ
ㄴ, ㄷ ㄱ, ㄴ, ㄷ

78.

AOH

BOH

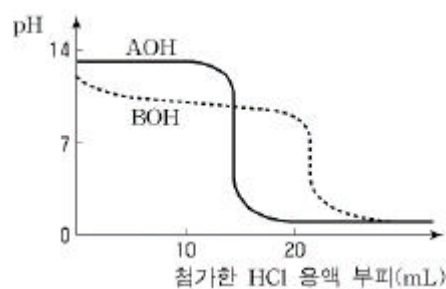
. (, A B

.)

< >

- (1) 0.1 M HCl .
(2) 25 mL AOH HCl
pH .

- (3) 25 mL BOH (2) .
(4) 가 HCl pH .
< >



< >

? [2]

ㄱ.	
ㄴ. AOH	BOH
ㄷ. AOH BOH	.

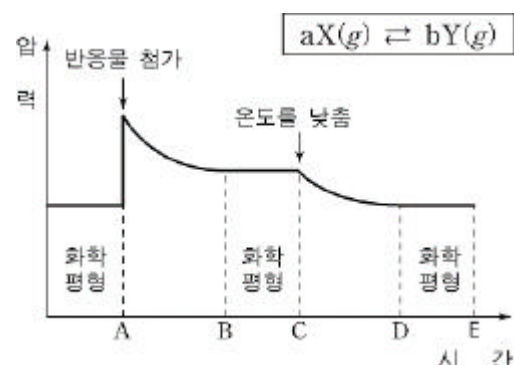
ㄱ ㄴ ㄱ, ㄴ ㄱ, ㄷ ㄴ, ㄷ

79.

(X)

(Y)

.
,



< >

? [2]

ㄱ.	
ㄴ. BC	DE
ㄷ.	.

ㄱ ㄷ ㄱ, ㄴ ㄱ, ㄷ ㄴ, ㄷ

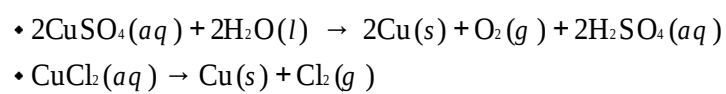
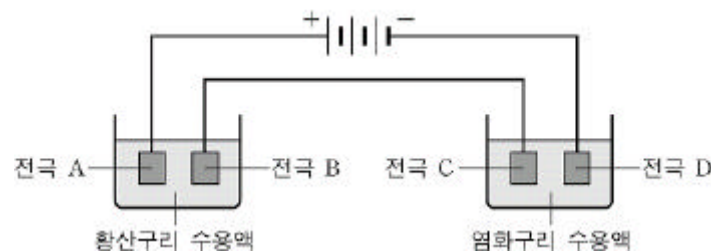
80.

(CuSO₄)

(CuCl₂)

. (,

.)



?

B 가 .
pH

A C

1:2 .

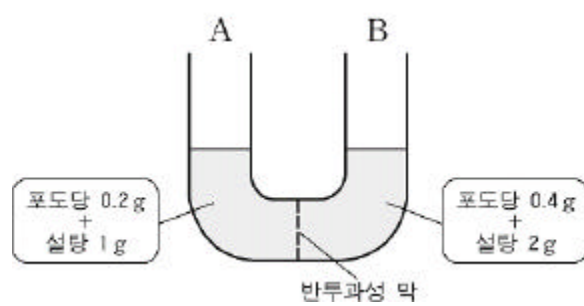
*

○

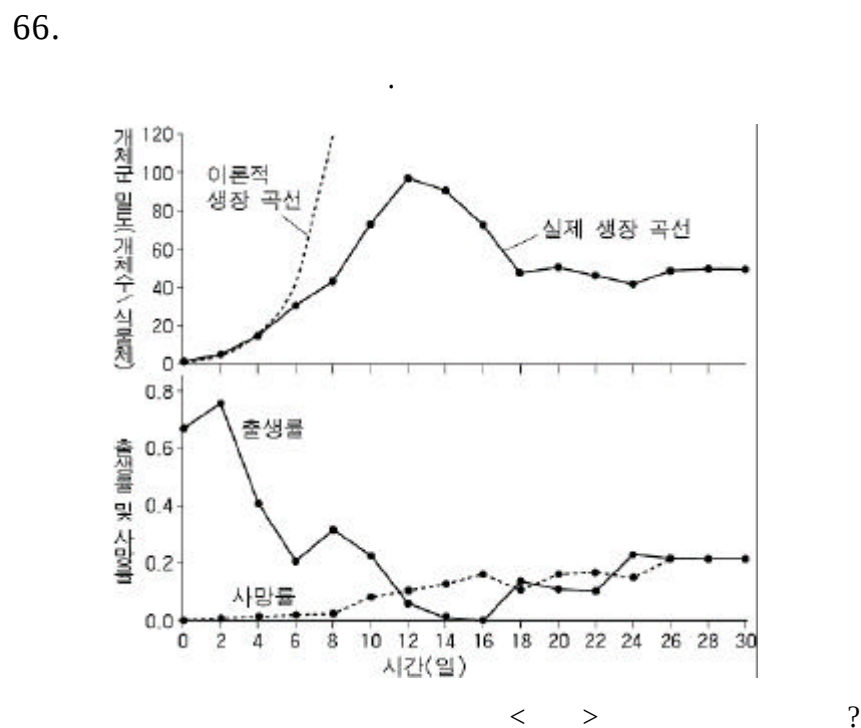
()

○

65. A 0.2 g 1 g U
B 0.4 g 2 g
(,)



A
? [2]
가 가
가
가 가
가 가



ㄱ. 15
ㄴ. 가 가
ㄷ.

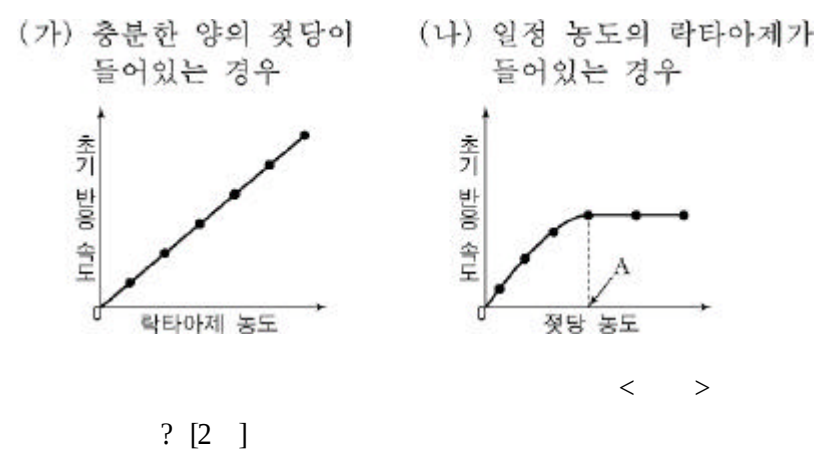
ㄱ, ㄴ, ㄷ ㄴ, ㄷ ㄱ, ㄴ, ㄷ

67.

	(μm)	(m^2)	
A	13 20	80 120	
B	6 12	35 75	
C	1 5	5 30	,
D	1 5	0.5 2	가

?
가 가
A
 Na^+ 가
C 가 D

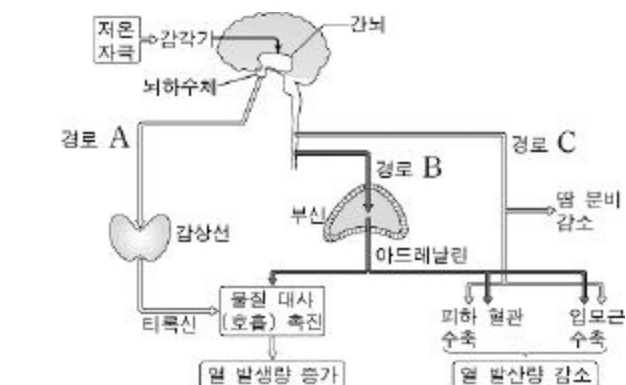
68.



ㄱ. (가) 가 가 가
ㄴ. (가) 가 가
ㄷ. () 가 A
ㄹ. () 가 가 가

ㄱ, ㄴ ㄴ, ㄷ ㄷ, ㄹ
ㄱ, ㄴ, ㄷ ㄴ, ㄷ, ㄹ

71.

 $\langle \quad \rangle$

ㄱ	ㄴ	ㄷ
ㄱ	ㄷ	ㄴ
ㄱ	ㄷ	ㄹ
ㄴ	ㄷ	ㄹ
ㄹ	ㄷ	ㄴ

The diagram illustrates the C₃ pathway (Calvin cycle) for photosynthesis. It shows the following steps and components:

- Inputs:** 6 CO₂ enters the cycle.
- Intermediate 1:** 6 CO₂ is converted to 12 PGA.
- Intermediate 2:** 12 PGA is converted to 12 PGAL.
- Outputs:** 12 PGAL is converted to 2 PGAL, which then leads to the production of 포도당 (C₆H₁₂O₆).
- Energy Requirements:**
 - 12 ATP is converted to 12 ADP during the conversion of 12 PGA to 12 PGAL.
 - 12 NADPH₂ is converted to 12 NADP during the conversion of 12 PGA to 12 PGAL.
- Regeneration:** 6 ADP is converted to 6 ATP during the conversion of 2 PGAL back to 6 RuBP, completing the cycle.
- Label:** The cycle is labeled '칼빈 회로' (Calvin cycle).

ㄱ. PGA	PGAL				가	.
ㄴ. PGA		ATP	NADPH ₂	가	.	
ㄷ.	1				>RuBP>PGA	
ㄹ.	1	가			6CO ₂ , 18ATP, 12NADPH ₂	
	가	.				

$$\begin{array}{ccc} \neg, \perp & \perp, \supset & \vdash, \supset \\ \neg, \perp, \supset & \perp, \vdash, \supset & \end{array}$$

(가)

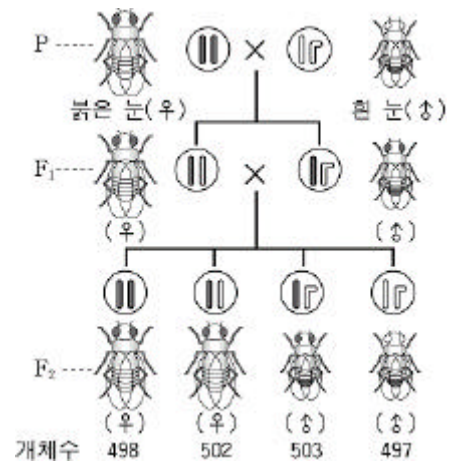
(나)

< >

ㄱ. (가) ATP가 , () ATP가 .
 ㄴ. (가) , () .
 ㄷ. 가  .

$\neg$	$\neg, \perp$	$\neg, \perp$
$\perp, \perp$	$\neg, \perp, \perp$	

73.



가. F₂ 3 : 1

나. F₂ 1 : 1

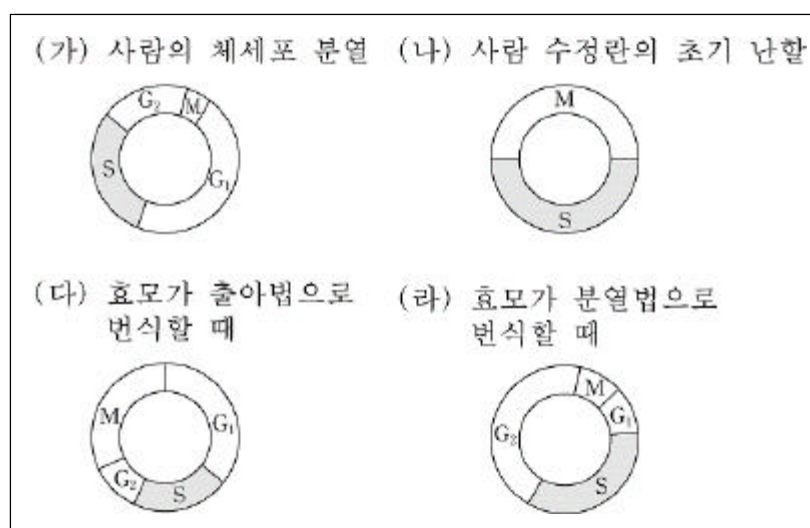
다. F₂ 가 P F₁

르. 가

가, 나 가, 르 나, 다

가, 나, 다 나, 다, 르

74.



가. S 가

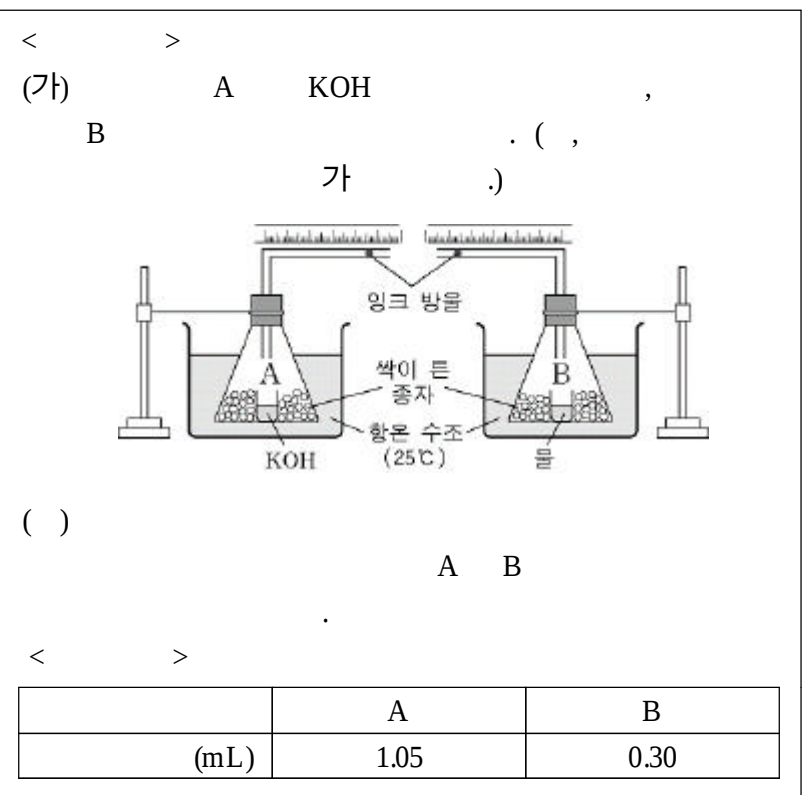
나. ()

다. 가

가 가, 나 가, 다

나, 다 가, 나, 다

75.

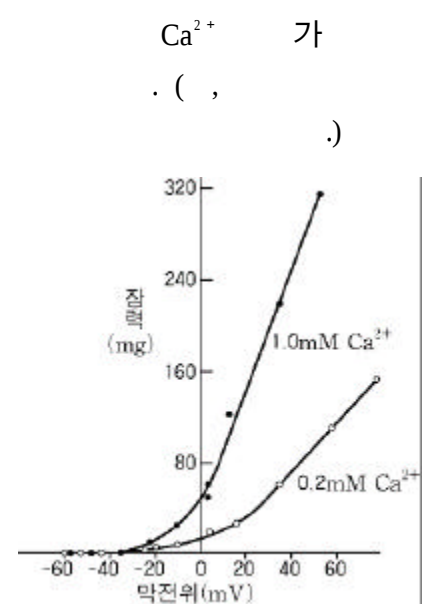


가 ? [2]

0.7

A B

76.



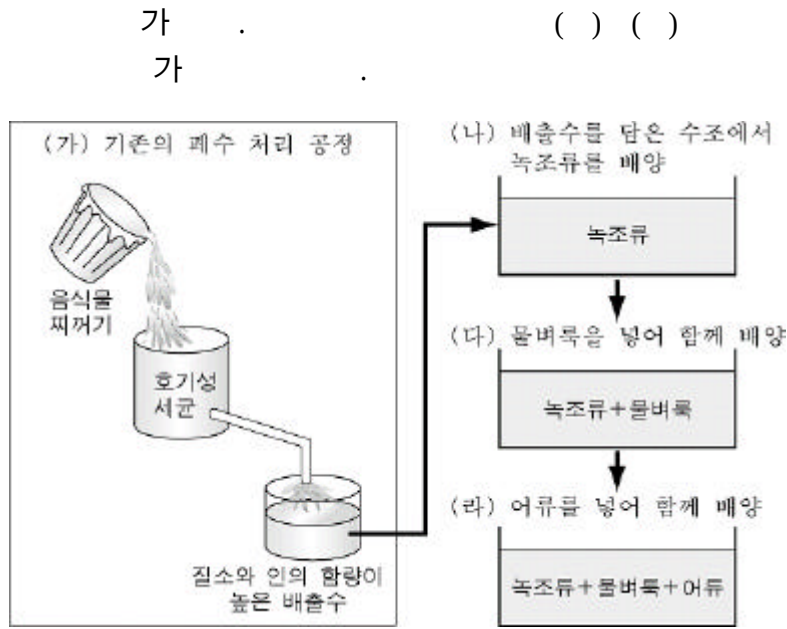
가 -60 mV

나. Ca²⁺

다. 가 가 가 가

가 나 다 가, 나 나, 다

77.



< > ? [2]

ㄱ. (가) :

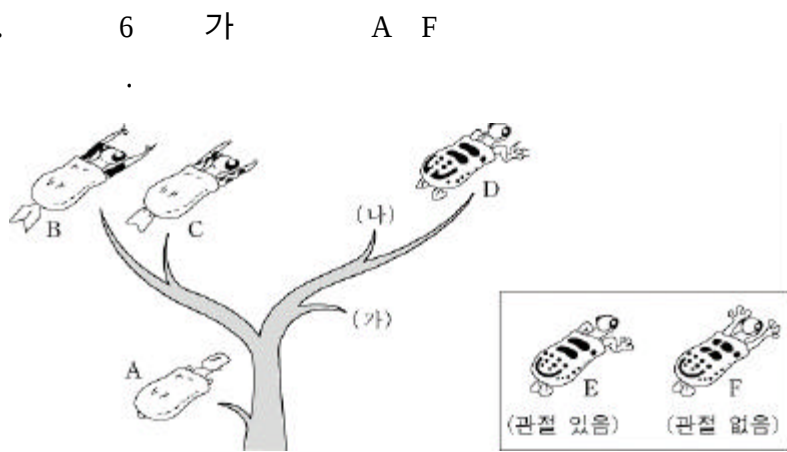
ㄴ. () :

ㄷ. () :

ㄹ. () :

ㄱ, ㄴ ㄴ, ㄷ ㄷ, ㄹ
 ㄱ, ㄴ, ㄷ ㄴ, ㄷ, ㄹ

78.



? [2]

ㄱ. (가) F, () E .

ㄴ. A 6 가 가 가 .

ㄷ. D B C .

ㄹ. 6 .

ㄱ, ㄹ ㄴ, ㄷ ㄱ, ㄴ, ㄹ
 ㄴ, ㄷ, ㄹ ㄱ, ㄴ, ㄷ, ㄹ

79.

3

	(%)				
	A	T	G	C	U
(가)	26	26	24	24	0
()	30	0	28	22	20
()	20	20	30	30	0

< > ? (,) [2]

ㄱ. (가), (), () 가 .

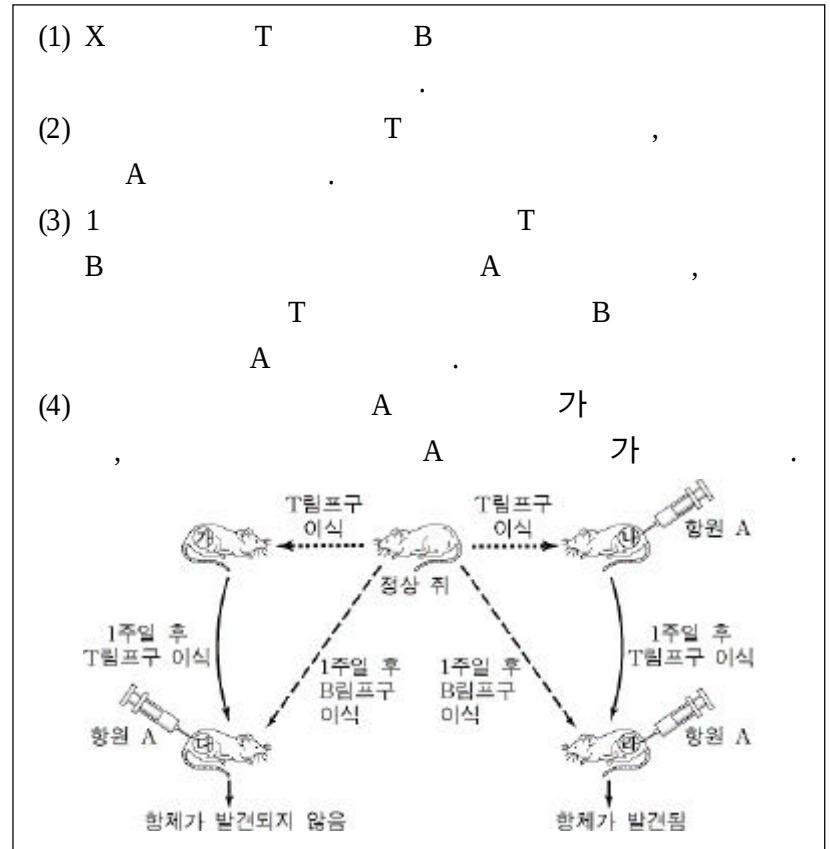
ㄴ. (가) () DNA , () RNA .

ㄷ. ()가 (가) .

ㄹ. .

ㄱ, ㄴ ㄴ, ㄹ ㄷ, ㄹ
 ㄱ, ㄴ, ㄷ ㄴ, ㄷ, ㄹ

80.



가 ? [2]

T .

T 가 1

B 가 T

T B

* ()

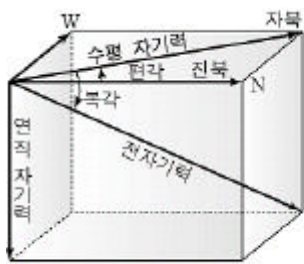
○

○

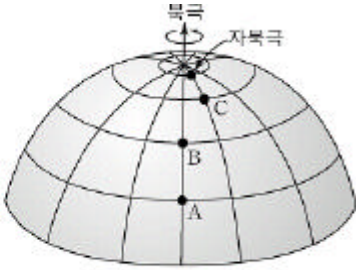
II

65. (가) , ()

A, B, C



(가)



(나)

A, B, C

< >

? [2]

ㄱ.	가	A	.
ㄴ.	가	B	.
ㄷ.	가	C	.

ㄱ

ㄴ

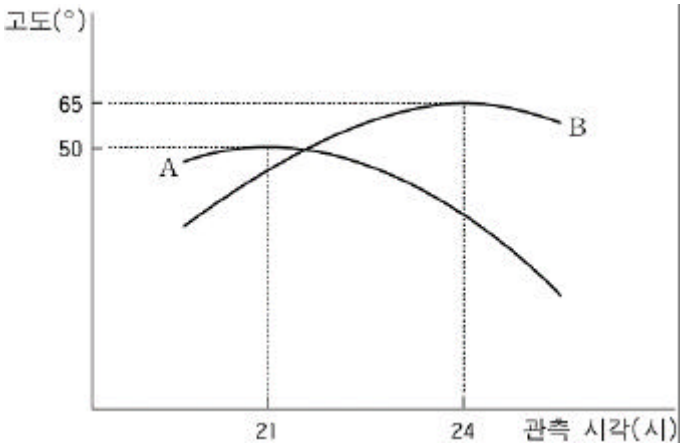
ㄱ, ㄷ

ㄴ, ㄷ

ㄱ, ㄴ, ㄷ

66.

A, B



A가

< >

? (,

= 90° - +) [2]

ㄱ.		40° N	.
ㄴ.	B	A	3
ㄷ.	B	+15°	.

ㄱ

ㄷ

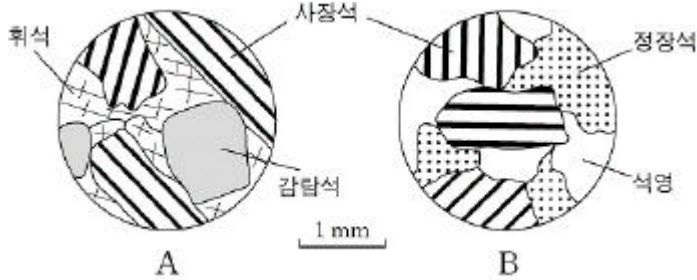
ㄱ, ㄴ

ㄱ, ㄷ

ㄴ, ㄷ

67.

A, B



		(g/cm³)	
	SiO₂	2.7	,
	KAlSi₃O₈	2.6	,
	NaAlSi₃O₈ CaAl₂Si₂O₈	2.6 2.8	,
	(Mg, Fe)SiO₃	3.2 3.8	,
	(Mg, Fe)₂SiO₄	3.2 4.3	,

A B

_____ ?

SiO₂

A

B

Ca

68.

(L)

$$L = 4\pi R^2 \sigma T^4$$

(R : , σ : , T :)

가

< >

?

(, R σ 가)

ㄱ.	
ㄴ.	
ㄷ.	

ㄱ

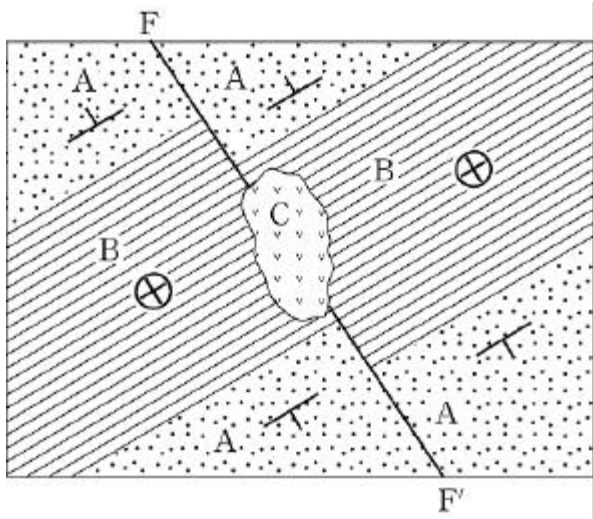
ㄷ

ㄱ, ㄴ

ㄴ, ㄷ

ㄱ, ㄴ, ㄷ

69. , (F - F')
6 C . (,
.)



? [2]

ㄱ. B	.	<	>
ㄴ.	가	.	
ㄷ. C	.		
ㄹ.	A → B → C	.	

ㄱ, ㄴ ㄱ, ㄷ ㄴ, ㄷ
ㄴ, ㄹ ㄷ, ㄹ

70. A, B , ,



	A	B
	,	,

— ?

A , B .
A , B .
A , B .
B .
A B .

[71 72]

[]

(가)

가

()

가

가 가
가

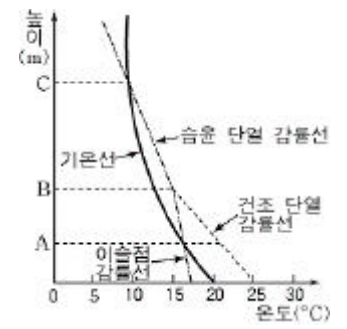
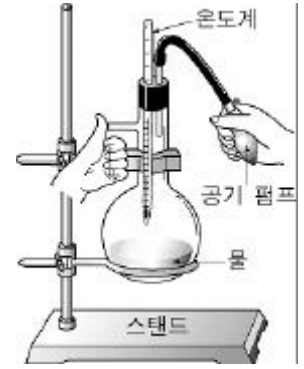
[]

가

가

25 가

. (,
17 .)



71. (가) ()

?

(가)	()
- A	A - B
- B	B - C
A - B	- A
B - C	- B
B - C	A - B

72.

< > ? (, 1.0 / 100 m,
0.5 / 100 m, 0.2 / 100 m
.) [2]

ㄱ. 1 km	.
ㄴ. A - B	.
ㄷ. B - C	.

ㄱ ㄴ ㄱ, ㄷ
ㄴ, ㄷ ㄱ, ㄴ, ㄷ

1

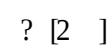

$$\neg \quad \sqsubset \quad \neg, \sqsubset \quad \neg, \sqsupset \quad \sqsubset, \sqsupset$$

가

가

가

(4)


$$\neg \quad \perp \quad \neg, \perp \quad \perp, \perp \quad \neg, \perp, \perp$$

?

[2]

A
A
B
B
C

B

B

C

C

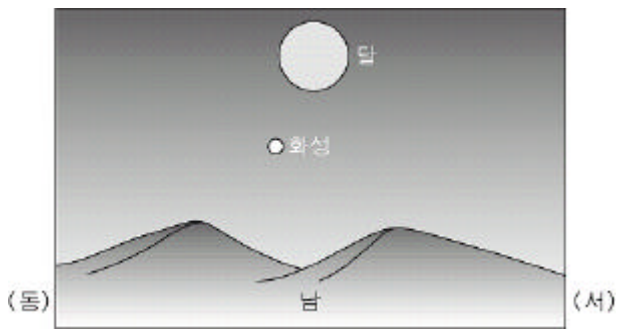
가



77.

[6
2003 8 27
가
가 6
.....

가 , 2003 8 12



< > ? [2]

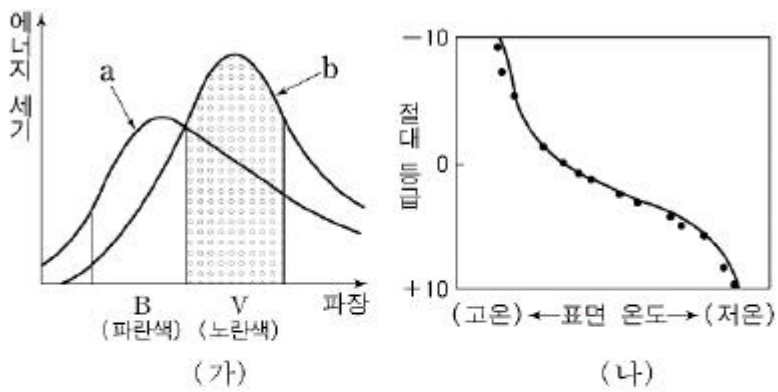
ㄱ. 8 12
ㄴ. 8 12
ㄷ. 8 27

ㄱ ㄴ ㄱ, ㄴ ㄱ, ㄷ ㄴ, ㄷ

78. (가)

a, b
, ()

H - R a, b



a, b < >

?

ㄱ. (가) a, b
ㄴ. () a, b
ㄷ. (가) a, b

ㄱ ㄱ, ㄴ ㄱ, ㄷ
ㄴ, ㄷ ㄱ, ㄴ, ㄷ

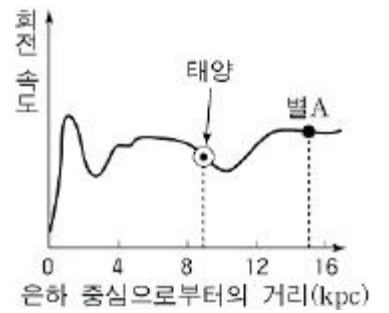
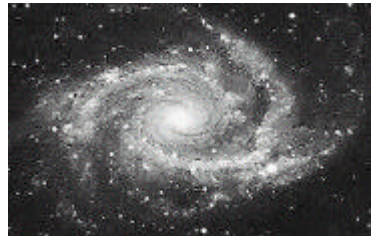
79. (가)

(M)

()

$$M = \frac{r^3}{p^2}$$

, p :)



(가)

()

< >

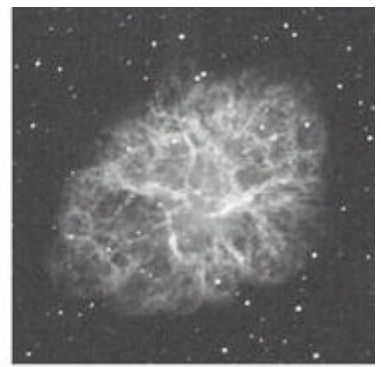
?

ㄱ. ,
ㄴ. (8 - 10 kpc)
가
ㄷ. A

ㄱ ㄴ ㄱ, ㄴ ㄱ, ㄷ ㄴ, ㄷ

80.

km/s A km/s , B km/s



성운 A

성운 B

A, B

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