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(12) (B1)

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(22) 1994 03 30 (43) 1994 11 18

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(30) 93 - 077244 1993 04 02 (JP)

(73) 가 가 2 14

(72) 가 가 가 100 가 가

(74)

:

(54)

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, , , , , , , , , , ,  
1 (10) 2 (11) , , , , , , , , , ,  
가 , , , , , , , , , , ,  
(9) . . . . . . . . . . . .

1

[ ]

[ ]  
 1 1 ,  
 2 ,  
 3 ,  
 4 1 ,  
 5 1 ,  
 6 ,  
 7 ,  
 8 ,  
 9 .  
 < >  
 8, 18 : (가 ) 9, 19 : ( )  
 10 : ( 1 )  
 11 : ( 2 )  
 [ ]

9 ,  
 ( 3 - 141373).  
 9  
 9  
 (17) 가 가 , (node) (16) 가  
 가 .  
 (18) Go .  
 .

Go = (N, A, Co) - - - - - - - - -

N = {n<sub>1</sub>, n<sub>2</sub>, - - - - , n<sub>m</sub>} , m

A = {a<sub>1</sub>, a<sub>2</sub>, - - - a<sub>n</sub>} 2  
 a<sub>k</sub> = {n<sub>i</sub>, n<sub>j</sub>} n<sub>i</sub>, n<sub>j</sub> , , , n  
 .

Co

$$a_k = \{n_i, n_j\}$$

(19)

,

(18)

가

Go,

$$(c) \quad , \quad a_k = \{n_i, n_j\} \quad \text{가} \quad . \quad (a) \quad , \quad (b)$$

$$(a) \quad i \quad j \quad B_{ij} \quad (1)$$

$$B_{ij} = d_{ij} \quad \dots \quad (1)$$

$d_{ij}$                     i                    j                    (mm) ,

$$d_{ij} = \{ (x_j - x_i)^2 + (Y_j - Y_i)^2 \}^{1/2} \quad \dots \quad (2)$$

, X<sub>i</sub>, Y<sub>i</sub>      i    X, Y    (mm), X<sub>j</sub>, Y<sub>j</sub>      j    X, Y    (mm)

$$(b) \quad i \quad j \quad B_{ij} \quad (3)$$

$$B_{ij} = d_{ij} / v_{ij} \quad \dots \quad (3)$$

$$d_{ij}, v_{ij} \quad i \quad j \quad (m/sec) \quad , B_{ij}$$

$$(c) \quad i \quad j \quad B_{ij} \quad (4)$$

$$B_{ij} = (d_{ij}/v_{ij}) \times (1 - p_{ij}) \quad \dots \quad (4)$$

•  $d_{ij}$ ,  $v_{ij}$ ,  $i$ ,  $j$ ,  $p_{ij}$  (正),  $p_{ij}$  (負),  $p_{ij}$  가 .  $p_{ij}$  (Penalty)

( , ) 가 , 2 ( ) 가 ( , ) 가 .

가 (1) (3)

2 3 가 가

28

6 (A)

(X, Y)

6 (b)

가 (scene)

۱۰۰

가 , (3)

7 (a) , , 1.2

$$B_{12} = d_{12} / v_{12} = \{ (4000 - 1000)^2 + (0 - 0)^2 \}^{1/2} / (1000/1000)$$

「3000」 . , 「1000」 (3)

1 28  
가 . , 7 (b)  
8가 가

3 100 8 (X, Y)

1m , (1) (3) (1000) .

p , q

$$N(p,q) = p + q - 2 \quad C_{p-1} \quad \dots \quad (5)$$

3 1 100

[ 1 ]

$$N(10, 10) = \frac{18!}{9! \cdot 9!} = 48620 \text{ 가지} \quad \text{--- (6)}$$

가

가

가 , 1  
 가 , 2  
 가 , 2  
 가 , 1  
 가 , 1  
 가 , 1  
 가 , 1

[ ]

, 1  
 1 , 9

, (8) G

$G = (N, A, C) \dots \dots \dots$

,  $N = \{n_1, n_2, \dots, n_m\}$   $A = \{a_1, a_2, \dots, a_n\}$  Go

C  
 $ak = \{n_i, n_j\}$   
 ij  
 (10) (16) 가 (1), (3) (4) B  
 ij  
 (11) g 가 (7), (8) T

$T_{ij}(g) = (K/2) (g, i, j) \cdot B_{ij} \dots (7)$

$(g, i, j) = \text{Mod}\{ | (g, j) - (g, i) |, \dots \} \dots (8)$

$g=i, K, 0, (g, i), g, | (g, j) - (g, i) |, X$   
 $B_{ij}, j, X, i, j, g, i, X, T_{ij}(g) \text{ 가}, g$   
 $C_{ij}(g) (=c) \text{ 가} \dots (12)$

$C_{ij}(g) = B_{ij} + T_{ij}(g) \dots \dots \dots (9)$

$$C_{ij}(g)$$

(9)  
(8)

G,

가

$$K_{ij} \leftarrow 1, \quad (11) \quad 4 \quad (a) \quad T_{ij} \{28\} \text{가} \quad . \quad ,$$

$$(12) \quad \text{.} \quad 4 \quad (\text{a}) \quad \begin{matrix} B_{ij} \\ C_{ij} \{28\} \end{matrix} \quad T_{ij} \{28\} \text{ 가 가} \quad \text{.} \quad C_{ij} \{28\}$$

20 21 22 23 24 25 26 27 28 「8」가 1 28 「1 15 16 17 18 19  
,

$$(12) \quad B_{ij} \quad . \quad 5 \quad T_{ij} \{100\} \text{ 가 } C_{ij} \{100\} \quad . \quad \text{가 } T_{ij} \{100\} \text{ 가 } C_{ij} \{100\} \text{ 가 } .$$

41 51 61 71 81 91 92 93 94 95 96 97 98 99 100 「48620」가 , 「1 11 21 31」 100 가 .

가

가

가

가

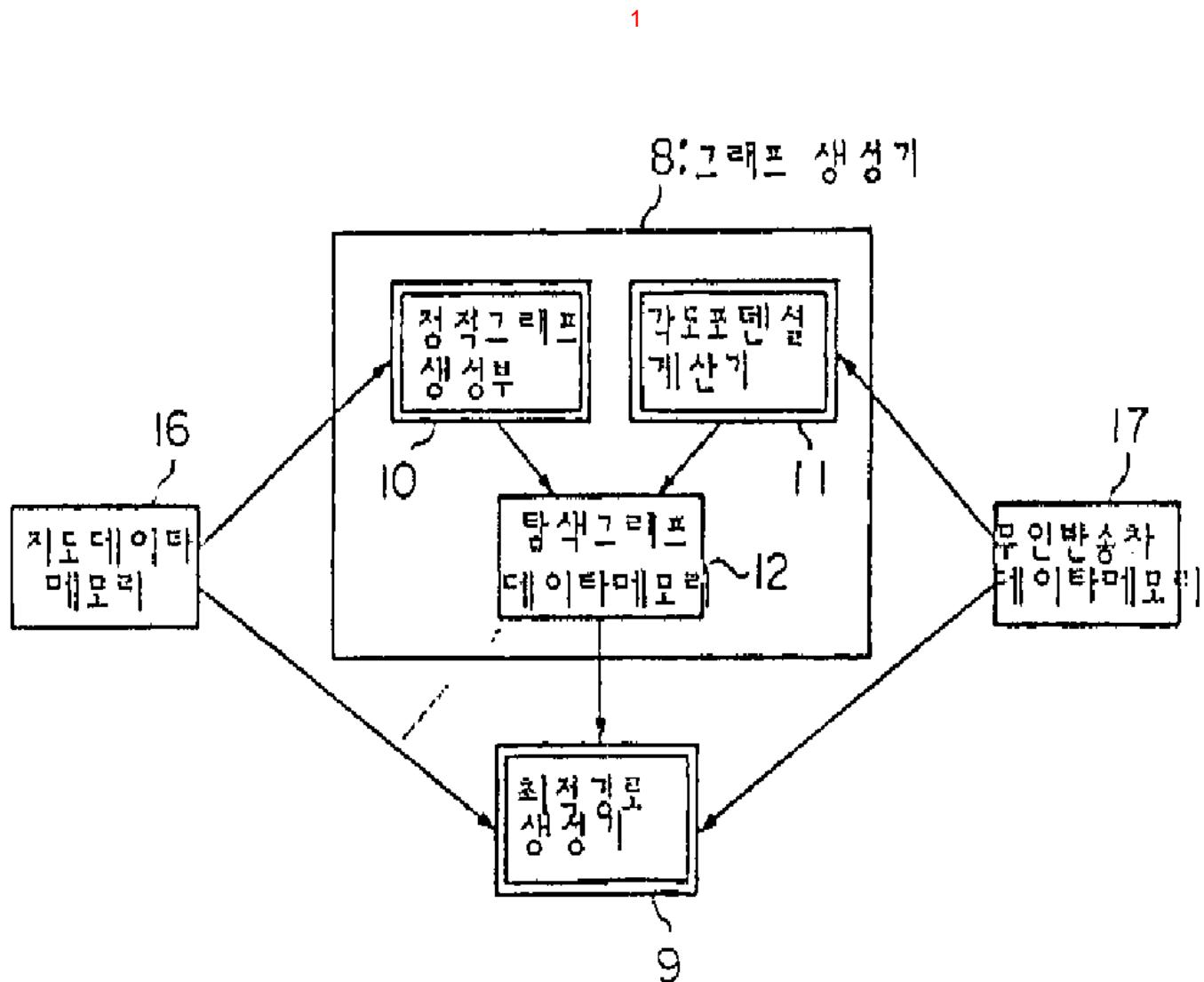
1

2 가

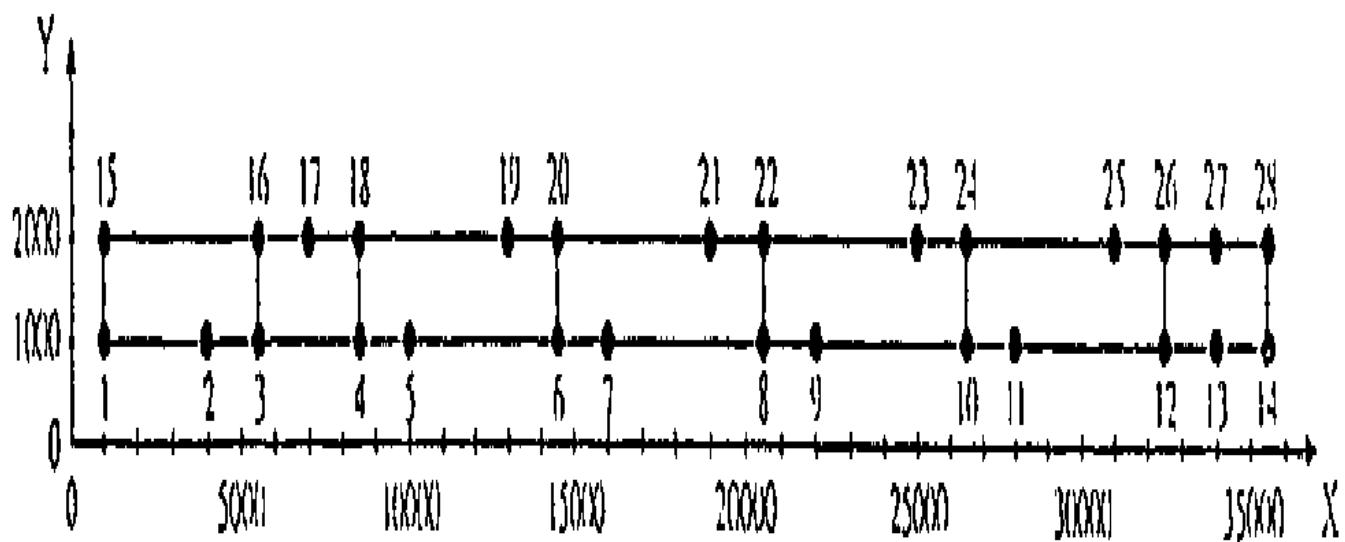
(57)

1.

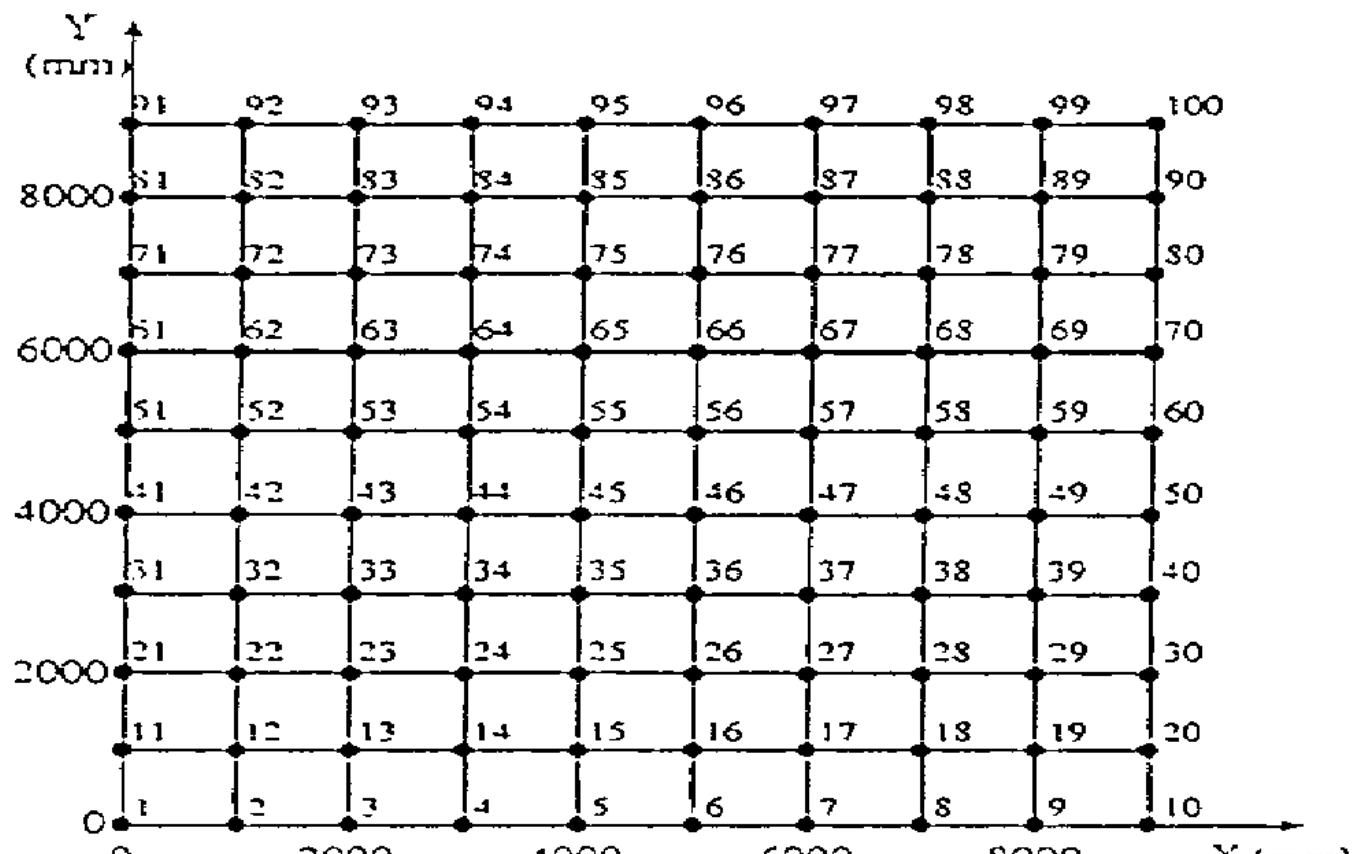
가 가 , 가 .



2

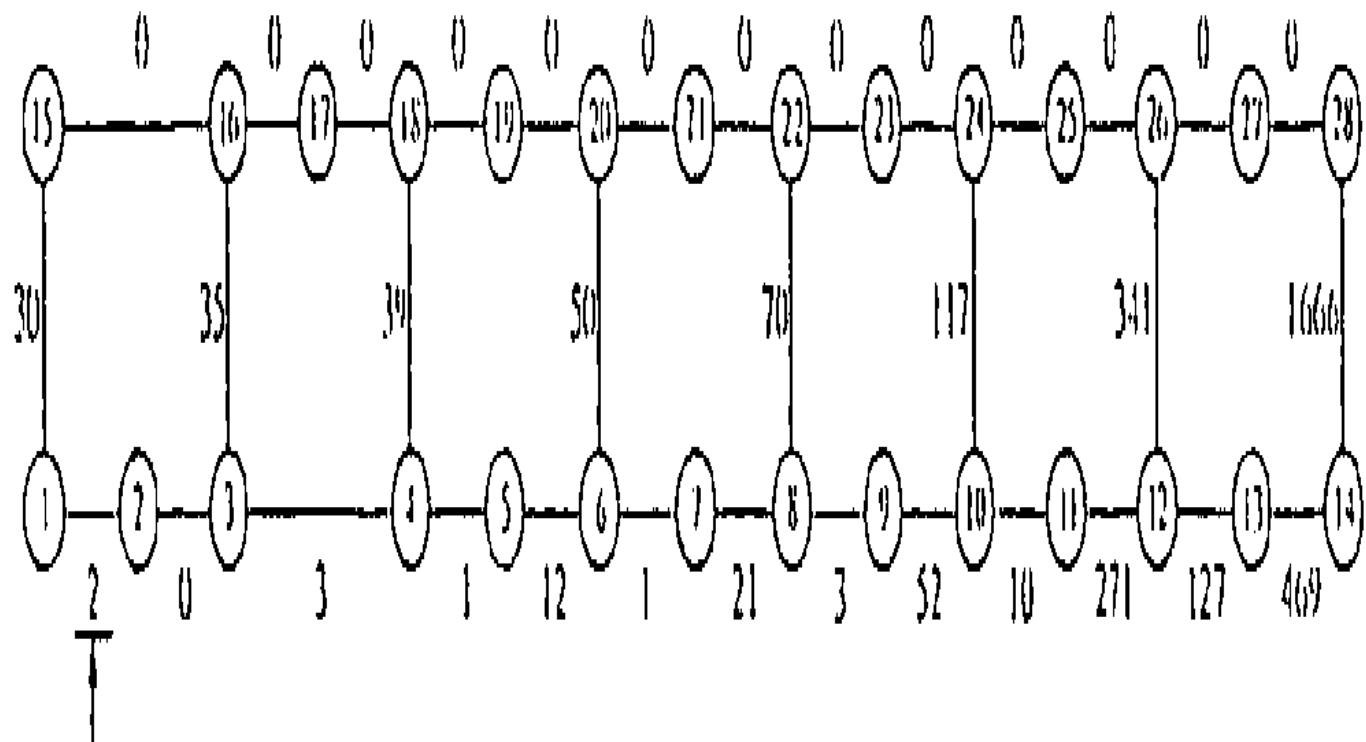


사다리꼴 주행로



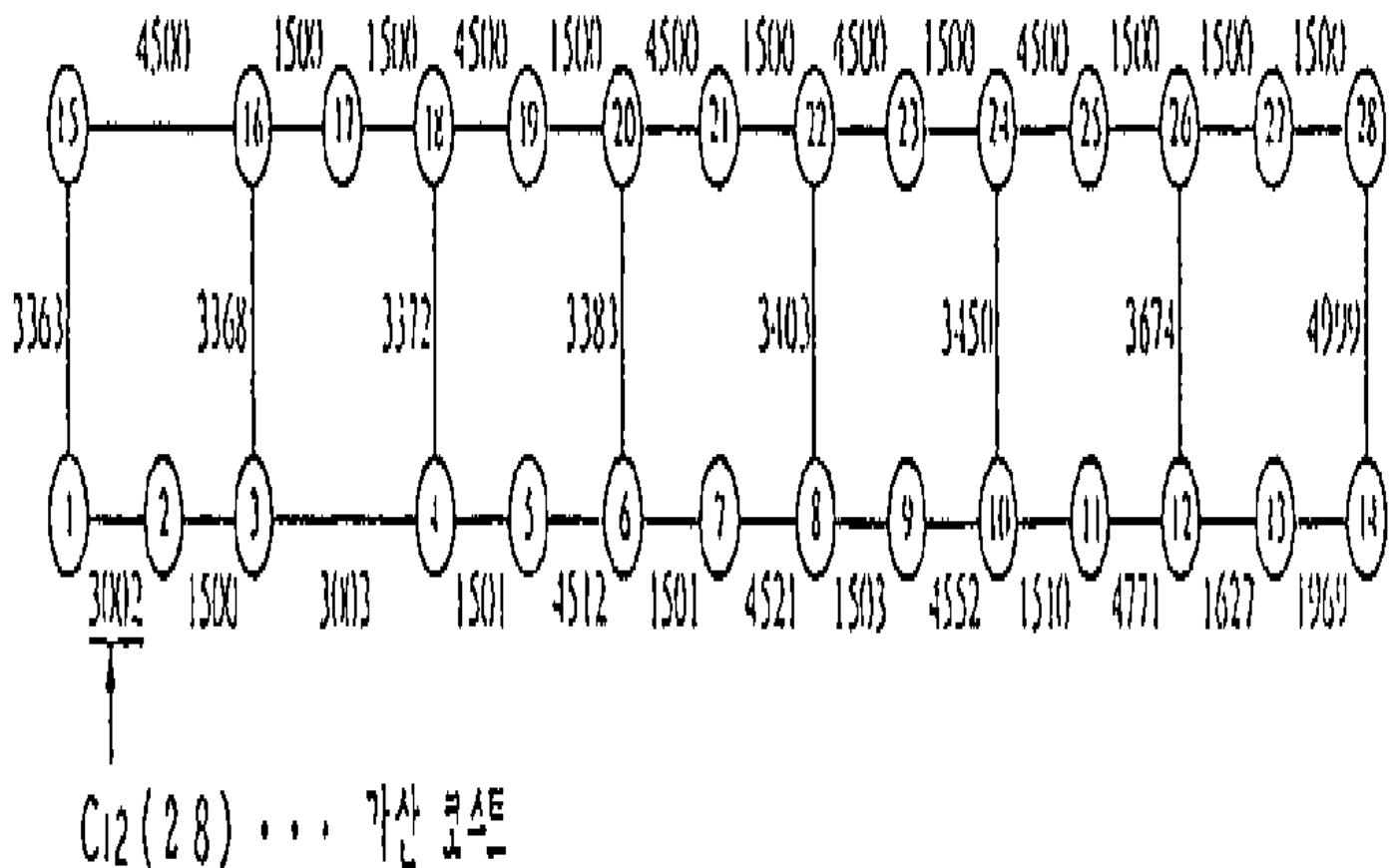
정방직자형주행로

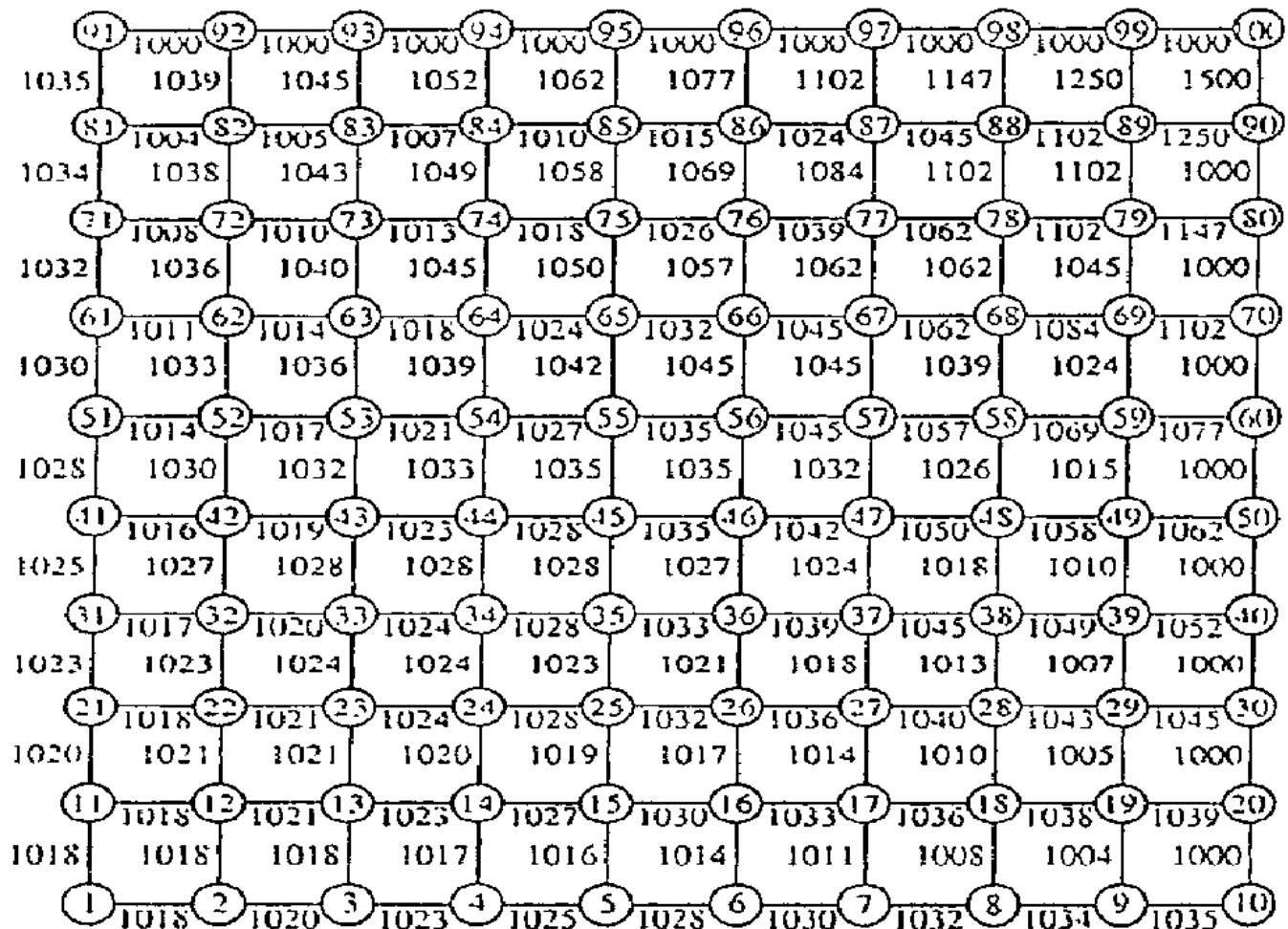
4a



## T12(28) ... 각도 패턴 코스

4b





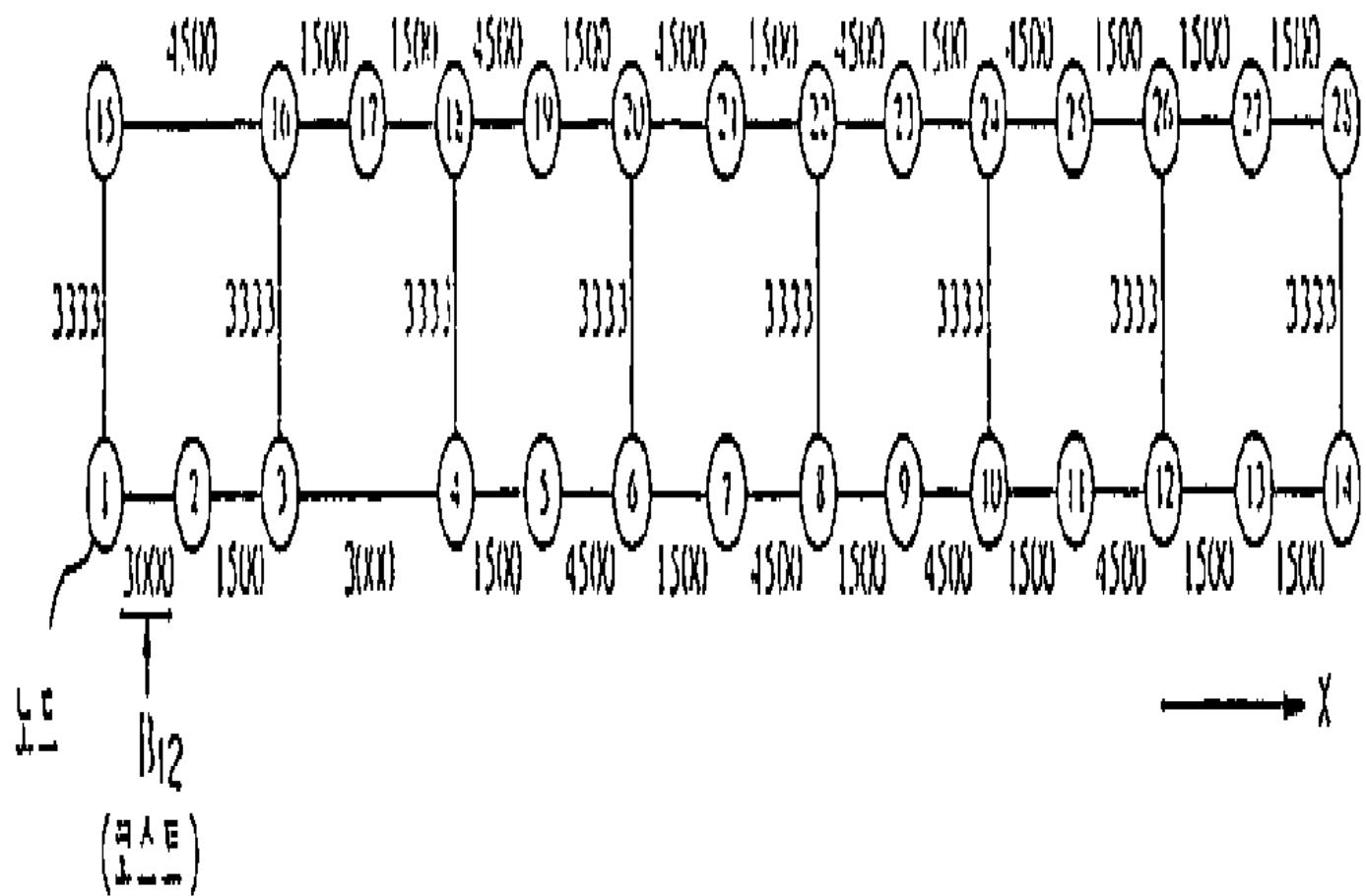
6a

도드레이터 (28도드)							
No	좌표 (mm)	No	좌표 (mm)	No	좌표 (mm)	No	좌표 (mm)
1	(1000,1000)	2	(4000,1000)	3	(5500,1000)	4	(3500,1000)
6	(14500,1000)	7	(16000,1000)	8	(20500,1000)	9	(22000,1000)
11	(28000,1000)	12	(32500,1000)	13	(34000,1000)	14	(35500,1000)
16	(5500,2000)	17	(7000,2000)	18	(8500,2000)	19	(13000,2000)
21	(19000,2000)	22	(31000,2000)	23	(25000,2000)	24	(26500,2000)
26	(32500,2000)	27	(34000,2000)	28	(35500,2000)		

6b

신데일리트 (34신)																				
No	시	지	종	점	방	속도	No	시	지	종	점	방	속도	No	시	지	종	점	방	속도
	노	드	노	드	향	mm/sec	노	노	드	노	드	향	mm/sec	노	노	드	노	드	향	mm/sec
1	1	2	0	1000	2	2	3	0	1000	3	3	4	0	1000						
4	4	5	0	1000	5	5	6	0	1000	6	6	7	0	1000						
7	7	8	0	1000	8	8	9	0	1000	9	9	10	0	1000						
10	10	11	0	1000	11	11	12	0	1000	12	12	13	0	1000						
13	13	14	0	1000	14	15	16	0	1000	15	16	17	0	1000						
16	17	18	0	1000	17	18	19	0	1000	18	19	20	0	1000						
19	20	21	0	1000	20	21	22	0	1000	21	22	23	0	1000						
22	23	24	0	1000	23	24	25	0	1000	24	25	26	0	1000						
25	26	27	0	1000	26	27	28	0	1000	27	1	15	0	300						
28	3	16	0	300	29	4	18	0	300	30	6	20	0	300						
31	8	22	0	300	32	10	24	0	300	33	12	26	0	300						
34	14	28	0	300																

7a



7b

No.	최단경로 (Total Cost)
1	1 → 2 → 3 → 4 → 5 → 6 → 7 → 8 → 9 → 10 → 11 → 12 → 13 → 14 → 28
2	1 → 2 → 3 → 4 → 5 → 6 → 7 → 8 → 9 → 10 → 11 → 12 → 26 → 27 → 28
3	1 → 2 → 3 → 4 → 5 → 6 → 7 → 8 → 9 → 10 → 24 → 25 → 26 → 27 → 28
4	1 → 2 → 3 → 4 → 5 → 6 → 7 → 8 → 22 → 23 → 24 → 25 → 26 → 27 → 28
5	1 → 2 → 3 → 4 → 5 → 6 → 20 → 21 → 22 → 23 → 24 → 25 → 26 → 27 → 28
6	1 → 2 → 3 → 4 → 18 → 19 → 20 → 21 → 22 → 23 → 24 → 25 → 26 → 27 → 28
7	1 → 2 → 3 → 16 → 17 → 18 → 19 → 20 → 21 → 22 → 23 → 24 → 25 → 26 → 27 → 28
8	1 → 15 → 16 → 17 → 18 → 19 → 20 → 21 → 22 → 23 → 24 → 25 → 26 → 27 → 28

노드 데이타(28노드)											
No	좌표[m]	No	좌표[m]	No	좌표[m]	No	좌표[m]	No	좌표[m]	No	좌표[m]
1	(0.0)	2	(0.1)	3	(0.2)	4	(0.3)	5	(0.4)	6	(0.5)
8	(0.7)	9	(0.8)	10	(0.9)	11	(1.0)	12	(1.1)	13	(1.2)
15	(1.4)	16	(1.5)	17	(1.6)	18	(1.7)	19	(1.8)	20	(1.9)
22	(2.1)	23	(2.2)	24	(2.3)	25	(2.4)	26	(2.5)	27	(2.6)
29	(2.8)	30	(2.9)	31	(3.0)	32	(3.1)	33	(3.2)	34	(3.3)
36	(3.5)	37	(3.6)	38	(3.7)	39	(3.8)	40	(3.9)	41	(4.0)
43	(4.2)	44	(4.3)	45	(4.4)	46	(4.5)	47	(4.6)	48	(4.7)
50	(4.9)	51	(5.0)	52	(5.1)	53	(5.2)	54	(5.3)	55	(5.4)
57	(5.6)	58	(5.7)	59	(5.8)	60	(5.9)	61	(6.0)	62	(6.1)
64	(6.3)	65	(6.4)	66	(6.5)	67	(6.6)	68	(6.7)	69	(6.8)
71	(7.0)	72	(7.1)	73	(7.2)	74	(7.3)	75	(7.4)	76	(7.5)
78	(7.7)	79	(7.8)	80	(7.9)	81	(8.0)	82	(8.1)	83	(8.2)
85	(8.4)	86	(8.5)	87	(8.6)	88	(8.7)	89	(8.8)	90	(8.9)
92	(9.1)	93	(9.2)	94	(9.3)	95	(9.4)	96	(9.5)	97	(9.6)
99	(9.8)	100	(9.9)								

