

Write down the value of the beads

A	B	C	D	E	F	G	H	I	J
2	4	6	1	8	5	3	8	7	6

A	B	C	D	E	F	G	H	I	J
6	5	8	3	4	9	7	2	5	4

A	B	C	D	E	F	G	H	I	J
5	6	2	7	1	3	8	4	9	6

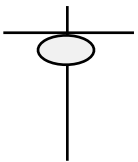
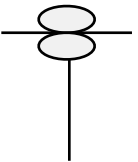
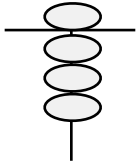
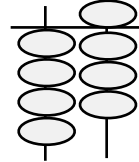
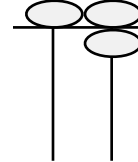
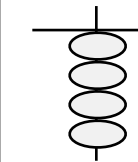
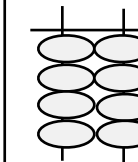
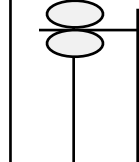
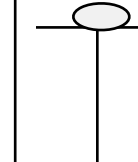
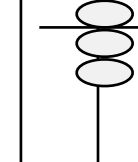
Write down the value of beads

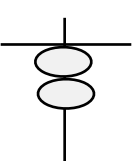
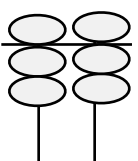
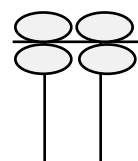
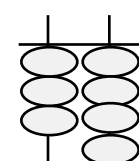
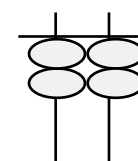
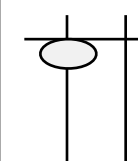
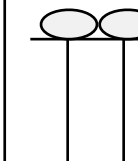
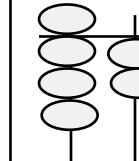
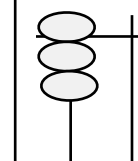
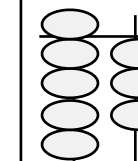
A	B	C	D	E	F	G	H	I	J
11	22	33	44	55	66	77	88	99	15

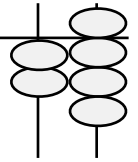
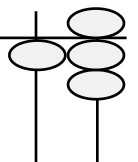
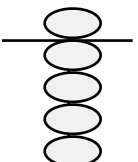
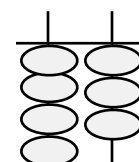
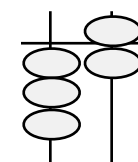
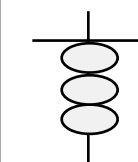
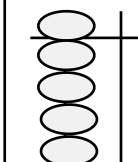
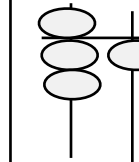
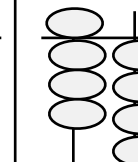
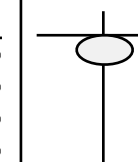
A	B	C	D	E	F	G	H	I	J
23	14	51	19	46	37	95	56	63	17

A	B	C	D	E	F	G	H	I	J
91	73	26	48	77	88	58	88	77	54

Abacus

A	B	C	D	E	F	G	H	I	J
									
1	6	8	48	56	4	44	60	5	7

A	B	C	D	E	F	G	H	I	J
									
2	88	66	34	22	10	55	82	70	93

A	B	C	D	E	F	G	H	I	J
									
28	17	9	43	36	3	90	71	84	1

Use the right hand first finger and thumb

A	B	C	D	E	F	G	H	I	J
2	1	5	5	1	2	1	3	1	2
4	4	9	8	7	9	3	9	4	9

A	B	C	D	E	F	G	H	I	J
5	3	1	5	3	4	2	3	5	2
7	9	9	7	4	6	2	5	3	1

A	B	C	D	E
4	1	4	5	5
-1				
3				
6	2	5	6	5

Use the right hand first finger and thumb

A	B	C	D	E	F	G	H	I	J
6	9	7	5	8	6	7	8	5	9
7	8	4	8	9	9	9	13	3	2

A	B	C	D	E	F	G	H	I	J
7	9	8	5	6	6	7	8	9	4
8	6	4	1	5	9	4	9	8	6

A	B	C	D	E
8	7	6	5	9
6	0	9	7	6

Use the right hand first finger and thumb

A	B	C	D	E	F	G	H	I	J
2	6	7	2	7	8	6	9	7	5
9	7	5	5	9	9	9	5	8	1

A	B	C	D	E	F	G	H	I	J
1	2	7	5	2	1	2	7	2	1
3	6	0	9	7	8	9	8	9	9

A	B	C	D	E
3	1	2	1	5
7	6	8	9	4

Use the right hand first finger and thumb

A	B	C	D	E	F	G	H	I	J
6	9	7	8	3	8	6	7	9	2
7	8	0	7	3	2	2	4	2	1

A	B	C	D	E	F	G	H	I	J
8	7	9	9	7	9	8	7	2	5
2	0	0	7	0	9	13	4	9	7

A	B	C	D	E
4	6	4	1	3
8	6	3	0	8

Practice

A	B	C	D	E	F	G	H	I	J
2	6	9	7	1	8	6	8	5	9
2	4	9	9	8	2	4	8	0	5

A	B	C	D	E	F	G	H	I	J
3	7	5	4	3	9	7	4	2	2
1	5	8	9	3	3	5	9	7	3

A	B	C	D	E	F	G	H	I	J
9	1	8	5	6	4	9	2	7	6
4	9	6	8	9	7	2	8	3	9

Practice

A	B	C	D	E	F	G	H	I	J
11	11	44	22	33	22	44	22	11	22
44	22	22	44	11	33	44	33	0	22

A	B	C	D	E	F	G	H	I	J
35	15	35	45	16	38	39	47	18	28
							-25		
							25		
45	10	45	35	12	48	29	47	29	27

A	B	C	D	E	F	G	H	I	J
88	66	55	99	33	49	18	26	66	82
66	33	0	99	44	9	12	73	11	38

The small buddy of 4 is 1.

A	B	C	D	E	F	G	H	I	J
2	8	2	4	3	3	8	9	3	2
1	6	8	5	1	8	7	7	2	7

A	B	C	D	E	F	G	H	I	J
2	8	7	1	6	9	8	3	4	3
8	5	5	9	5	5	6	1	3	9

A	B	C	D	E
4	9	1	3	7
1	6	6	6	6

The small buddy of 3 is 2

A	B	C	D	E	F	G	H	I	J
4	3	8	1	2	9	2	7	4	4
1	1	5	5	6	6	6	5	6	2

A	B	C	D	E	F	G	H	I	J
8	3	7	9	4	3	2	8	1	9
5	9	5	6	9	1	7	6	7	7

A	B	C	D	E
3	9	2	4	2
7	7	7	2	6

The big buddy of 2 is 3

A	B	C	D	E	F	G	H	I	J
4	8	9	3	3	4	3	2	3	4
1	5	5	9	0	7	6	7	6	0

A	B	C	D	E	F	G	H	I	J
3	9	4	4	8	3	9	3	4	2
8	6	9	8	5	8	5	6	0	6

A	B	C	D	E
3	8	3	9	2
9	5	6	6	6

The Small buddy of 1 is 4

A	B	C	D	E	F	G	H	I	J
3	4	4	9	4	4	4	2	1	9
5	6	7	5	8	0	9	5	5	5

A	B	C	D	E	F	G	H	I	J
1	9	4	2	4	9	4	4	3	9
5	5	0	5	8	5	7	6	5	5

A	B	C	D	E
4	3	2	4	9
9	5	5	0	5

Practice

A	B	C	D	E	F	G	H	I	J
7	9	4	2	1	7	4	9	9	4
8	1	9	1	1	6	9	0	8	9

A	B	C	D	E	F	G	H	I	J
2	4	4	9	3	4	3	9	1	8
9	1	9	7	0	2	1	8	9	8

A	B	C	D	E	F	G	H	I	J
9	4	9	5	7	8	6	1	7	4
0	3	6	5	5	5	5	0	5	8

Abacus

A	B	C	D	E	F	G	H	I	J
9	8	4	3	2	4	7	8	6	5
5	2	9	7	5	5	9	1	8	6

A	B	C	D	E	F	G	H	I	J
9	6	4	3	8	5	4	2	1	7
9	7	6	0	2	7	5	8	8	3

Abacus

Taking away four using small buddy.
The small buddy of 4 is 1.

A	B	C	D	E	F	G	H	I	J
6	7	4	5	4	6	6	5	5	8
6	9	2	3	4	3	5	4	2	5

A	B	C	D	E	F	G	H	I	J
5	7	9	6	8	2	1	9	2	3
5	4	3	4	6	3	2	4	4	4

A	B	C	D	E
7	8	9	4	3
7	2	2	1	1

Abacus

Taking away three using small buddy.
The small buddy of 3 is 2.

A	B	C	D	E	F	G	H	I	J
6	2	5	8	1	6	4	7	4	3
8	3	8	3	4	5	2	8	3	4

A	B	C	D	E	F	G	H	I	J
7	5	6	4	9	8	5	6	7	2
6	6	4	3	4	3	9	7	5	4

A	B	C	D	E
3	1	5	7	4
2	2	3	3	4

Abacus

Taking away two using small buddy.
The small buddy of 2 is 3.

A	B	C	D	E	F	G	H	I	J
6	1	7	9	2	4	5	9	8	5
7	4	4	4	4	3	7	3	4	4

A	B	C	D	E	F	G	H	I	J
6	4	8	7	6	5	6	3	2	1
5	4	3	3	8	4	9	3	3	4

A	B	C	D	E
9	7	5	8	6
3	4	4	3	3

Abacus

Taking away one using small buddy.
The small buddy of 1 is 4.

A	B	C	D	E	F	G	H	I	J
5	6	1	5	8	3	5	6	7	9
8	3	4	7	6	4	3	4	4	4

A	B	C	D	E	F	G	H	I	J
5	4	5	2	7	6	4	9	3	1
7	4	6	4	4	3	4	4	4	4

A	B	C	D	E
5	8	6	9	1
8	4	4	4	4

Practice

A	B	C	D	E	F	G	H	I	J
8	6	4	8	5	8	4	9	7	7
1	4	5	8	6	9	9	3	8	5

A	B	C	D	E	F	G	H	I	J
8	3	2	5	5	5	2	3	4	7
9	9	7	1	3	1	8	7	4	7

A	B	C	D	E	F	G	H	I	J
7	3	7	9	8	6	7	8	4	9
6	8	6	7	5	4	5	4	6	4

Practice

A	B	C	D	E	F	G	H	I	J
9	8	7	2	5	3	4	6	1	9
9	4	9	8	9	6	7	4	6	4

A	B	C	D	E	F	G	H	I	J
5	8	6	7	2	4	1	9	3	5
5	2	3	9	4	9	4	12	4	7

The big buddy of 9 is 1

A	B	C	D	E	F	G	H	I	J
6	1	9	3	7	4	6	8	2	7
10	11	12	14	15	10	19	10	20	17

A	B	C	D	E	F	G	H	I	J
3	8	7	2	4	9	8	7	1	2
16	14	14	15	17	14	13	19	17	15

A	B	C	D	E
5	3	2	5	8
16	15	13	18	15

The big buddy of 8 is 2

A	B	C	D	E	F	G	H	I	J
1	2	9	7	3	1	3	9	2	4
10	17	15	10	16	16	13	12	11	20

A	B	C	D	E	F	G	H	I	J
5	3	6	3	4	7	8	4	1	4
12	15	10	15	16	12	25	15	12	21

A	B	C	D	E
6	9	8	3	1
12	13	12	18	15

The big buddy of 7 is 3

A	B	C	D	E	F	G	H	I	J
9	4	1	3	4	8	9	6	8	4
19	16	10	12	16	19	10	16	18	10

A	B	C	D	E	F	G	H	I	J
8	7	9	9	3	6	5	4	5	7
14	11	14	25	16	11	11	20	10	10

A	B	C	D	E
4	6	1	8	9
15	10	16	11	13

The big buddy of 6 is 4

A	B	C	D	E	F	G	H	I	J
4	4	1	2	6	9	1	2	8	9
11	19	10	15	15	19	15	10	15	10

A	B	C	D	E	F	G	H	I	J
9	8	7	6	3	9	4	7	5	4
14	10	10	10	10	17	17	15	10	18

A	B	C	D	E
9	4	3	8	9
12	15	15	10	11

The big buddy of 5 is 5

A	B	C	D	E	F	G	H	I	J
6	8	9	7	1	9	3	7	9	5
10	19	13	10	4	12	14	14	11	11

A	B	C	D	E	F	G	H	I	J
1	7	8	9	8	2	3	9	5	4
10	20	20	23	22	10	12	20	15	10

A	B	C	D	E
3	4	6	9	3
9	13	15	22	10

Practice

A	B	C	D	E	F	G	H	I	J
9	5	2	4	8	1	3	7	3	4
22	15	15	11	17	15	14	19	20	10

A	B	C	D	E	F	G	H	I	J
1	6	8	7	5	2	9	4	3	8
10	20	14	16	14	14	16	14	14	10

A	B	C	D	E	F	G	H	I	J
7	5	9	3	9	2	8	6	1	4
15	13	21	12	14	15	10	28	17	14

Practice

A	B	C	D	E	F	G	H	I	J
5	3	9	4	7	1	8	2	6	9
20	16	20	22	29	16	28	28	25	26

A	B	C	D	E	F	G	H	I	J
5	2	7	1	4	8	3	6	9	5
21	20	28	27	22	24	20	13	23	26

The big buddy of 4 is 6

A	B	C	D	E	F	G	H	I	J
9	3	7	6	8	7	9	5	6	5
19	12	10	12	18	19	12	11	11	10

A	B	C	D	E	F	G	H	I	J
7	9	8	3	4	8	7	4	6	9
15	11	20	9	12	21	10	11	11	21

A	B	C	D	E
2	5	7	3	4
10	12	20	11	10

The big buddy of 3 is 7

A	B	C	D	E	F	G	H	I	J
6	9	2	8	7	8	7	9	2	8
10	18	11	16	19	17	13	11	10	10

A	B	C	D	E	F	G	H	I	J
4	5	9	7	5	8	9	4	8	8
11	12	20	19	10	15	10	10	10	20

A	B	C	D	E
8	3	9	5	9
10	10	21	12	15

The big buddy of 2 is 8

A	B	C	D	E	F	G	H	I	J
6	9	8	8	9	9	6	7	5	3
10	14	13	16	10	13	11	10	10	10

A	B	C	D	E	F	G	H	I	J
9	8	4	9	5	9	8	6	8	9
15	17	10	20	10	19	12	11	18	16

A	B	C	D	E
7	5	8	6	9
11	11	15	11	10

The big buddy of 1 is 9

A	B	C	D	E	F	G	H	I	J
9	8	9	8	9	2	3	9	7	9
19	10	16	13	17	10	10	15	10	18

A	B	C	D	E	F	G	H	I	J
4	6	9	7	9	5	9	8	4	9
10	10	15	10	11	10	17	10	10	13

A	B	C	D	E
6	5	7	9	1
10	10	10	12	10

Practice

A	B	C	D	E	F	G	H	I	J
4	9	7	9	3	6	2	8	6	5
20	21	18	14	18	17	16	13	18	20

A	B	C	D	E	F	G	H	I	J
1	7	6	9	8	5	2	4	9	3
10	11	16	14	12	18	10	12	11	15

A	B	C	D	E	F	G	H	I	J
8	1	6	9	7	5	2	4	8	6
20	19	17	17	14	13	18	20	22	15

Practice

A	B	C	D	E	F	G	H	I	J
4	8	5	7	1	9	6	2	3	4
14	21	20	23	18	21	13	22	13	23

A	B	C	D	E	F	G	H	I	J
5	7	1	6	8	4	9	2	5	3
14	21	11	25	21	14	21	13	11	22

-9 = -10 + 1 Taking away nine using big buddy.
The big buddy of 9 is 1.

A	B	C	D	E	F	G	H	I	J
3	7	9	8	9	8	1	2	9	7
1	6	9	1	2	6	1	1	8	7

A	B	C	D	E	F	G	H	I	J
2	3	8	7	4	7	8	6	8	2
2	2	7	1	4	3	2	6	8	1

A	B	C	D	E
4	8	23	6	7
1	3	16	2	2

-8 = -10 + 2 Taking away eight using big buddy.
 The big buddy of 8 is 2.

A	B	C	D	E	F	G	H	I	J
3	6	9	7	3	9	1	2	2	4
4	7	8	3	2	4	2	2	3	4

A	B	C	D	E	F	G	H	I	J
2	8	4	9	6	4	9	7	3	8
3	4	3	7	3	2	9	2	3	3

A	B	C	D	E
9	5	26	6	7
3	2	25	5	7

-7 = -10 + 3 Taking away seven using big buddy.
The big buddy of 7 is 3.

A	B	C	D	E	F	G	H	I	J
3	8	8	2	8	6	1	4	9	9
3	3	4	3	9	4	3	4	9	8

A	B	C	D	E	F	G	H	I	J
4	3	7	9	5	7	26	30	23	6
3	4	8	4	3	3	24	28	24	3

A	B	C	D	E
7	9	3	8	14
4	3	3	8	8

-6 = -10 + 4 Taking away six using big buddy.
 The big buddy of 6 is 4.

A	B	C	D	E	F	G	H	I	J
1	9	8	8	5	2	3	6	7	4
4	9	9	4	4	4	4	4	9	4

A	B	C	D	E	F	G	H	I	J
20	6	31	7	28	9	2	4	3	35
17	4	29	9	24	9	4	4	4	30

A	B	C	D	E
9	37	30	15	27
4	24	25	11	29

-5 = -10 + 5 Taking away 5 using big buddy.
 The big buddy of 5 is 5.

A	B	C	D	E	F	G	H	I	J
9	6	4	7	4	9	5	3	9	4
8	5	7	6	5	5	5	6	6	8

A	B	C	D	E	F	G	H	I	J
9	7	2	8	6	8	3	8	1	7
7	5	6	7	6	8	5	6	5	7

A	B	C	D	E
8	4	2	3	9
5	6	5	7	9

Practice

A	B	C	D	E	F	G	H	I	J
3	9	3	7	6	1	8	5	9	1
9	3	10	5	7	8	4	6	3	12

A	B	C	D	E	F	G	H	I	J
8	2	6	3	9	8	7	6	4	9
11	5	12	4	4	4	0	4	11	11

A	B	C	D	E	F	G	H	I	J
4	9	7	8	7	3	7	4	8	5
12	17	14	8	9	7	4	5	3	11

Practice

A	B	C	D	E	F	G	H	I	J
9	3	3	2	8	1	4	7	5	1
15	18	9	3	15	7	13	21	11	20

A	B	C	D	E	F	G	H	I	J
6	2	9	4	8	5	3	1	7	6
8	19	11	21	16	14	13	11	10	20

-4 = -10 + 6 Taking away 4 using big buddy.
 The big buddy of 4 is 6.

A	B	C	D	E	F	G	H	I	J
9	9	7	9	8	8	7	3	5	4
6	7	8	8	8	9	7	8	6	8

A	B	C	D	E	F	G	H	I	J
2	4	9	6	4	3	1	4	10	3
7	7	9	7	9	7	6	6	9	6

A	B	C	D	E
2	31	22	23	11
6	19	25	13	12

-3 = -10 + 7 Taking away 3 using big buddy.
The big buddy of 3 is 7.

A	B	C	D	E	F	G	H	I	J
6	4	9	8	1	5	7	9	8	7
8	8	7	7	7	7	7	8	9	9

A	B	C	D	E	F	G	H	I	J
3	2	3	21	11	4	2	30	10	3
9	7	8	22	12	9	8	36	15	7

A	B	C	D	E
4	6	12	20	41
7	8	15	26	29

-2 = -10 + 8 Taking away 2 using big buddy.
 The big buddy of 2 is 8.

A	B	C	D	E	F	G	H	I	J
2	8	3	9	6	8	5	4	7	6
8	9	9	8	8	8	8	9	8	9

A	B	C	D	E	F	G	H	I	J
21	4	8	2	24	11	3	10	36	19
25	8	9	9	28	15	8	0	38	26

A	B	C	D	E
9	12	20	41	21
9	19	21	34	15

-1 = -10 + 9 Taking away 1 using big buddy.
The big buddy of 1 is 9.

A	B	C	D	E	F	G	H	I	J
9	8	7	6	5	1	2	3	24	4
9	9	9	9	9	9	9	9	26	9

A	B	C	D	E	F	G	H	I	J
20	15	18	30	10	26	32	20	29	26
25	19	19	31	15	23	39	26	29	19

A	B	C	D	E
10	19	31	23	10
17	9	39	29	11

Practice

A	B	C	D	E	F	G	H	I	J
8	5	3	1	7	9	2	6	4	9
8	17	15	8	15	10	2	16	10	15

A	B	C	D	E	F	G	H	I	J
2	8	1	5	9	3	7	4	6	1
4	16	12	4	10	13	9	17	21	12

A	B	C	D	E	F	G	H	I	J
5	2	8	4	9	7	1	6	3	8
15	8	10	11	12	15	12	13	19	12

Practice

A	B	C	D	E	F	G	H	I	J
8	9	3	7	2	4	9	1	6	5
-5									
3									
+9									
4									
11	16	18	15	15	15	10	4	14	12

A	B	C	D	E	F	G	H	I	J
8	7	3	2	6	4	9	7	1	3
									2
									-4
									9
									-3
12	22	10	11	6	20	26	13	15	7

$$+9 = +10 - 5 + 4$$

A	B	C	D	E	F	G	H	I	J
5	1	3	5	6	5	7	4	8	5
16	14	14	20	24	10	14	14	14	19

A	B	C	D	E	F	G	H	I	J
6	5	8	5	2	15	12	23	9	14
14	18	24	23	14	19	24	34	14	24

A	B	C	D	E
5	7	9	6	5
17	24	24	14	9

+8 = +10 - 5 + 3

A	B	C	D	E	F	G	H	I	J
5	9	7	5	8	6	2	5	6	9
7	13	13	9	14	23	14	10	20	13

A	B	C	D	E	F	G	H	I	J
2	6	4	7	11	5	25	18	16	6
13	18	13	24	14	14	24	33	30	23

A	B	C	D	G
6	3	1	7	6
19	13	13	23	22

$$+7 = +10 - 5 + 2$$

A	B	C	D	E	F	G	H	I	J
5	3	9	6	5	5	6	7	8	9
14	14	23	14	17	13	9	17	14	13

A	B	C	D	E	F	G	H	I	J
6	9	3	7	1	5	3	7	2	4
22	12	13	22	14	16	14	23	12	14

A	B	C	D	E
8	4	6	8	2
23	12	14	24	14

$$+6 = 10 - 5 + 1$$

A	B	C	D	E	F	G	H	I	J
9	6	8	4	2	7	4	3	6	7
13	21	21	11	13	11	14	13	9	22

A	B	C	D	E	F	G	H	I	J
7	5	1	9	5	1	9	8	5	3
8	7	11	11	18	13	22	11	14	11

A	B	C	D	E
7	4	9	2	8
21	13	23	12	18

Practice

A	B	C	D	E	F	G	H	I	J
6	8	4	2	9	4	8	7	3	9
19	13	20	12	18	9	22	19	13	30

A	B	C	D	E	F	G	H	I	J
1	6	9	3	5	8	4	1	9	6
9	1	5	15	11	13	22	24	23	19

A	B	C	D	E	F	G	H	I	J
7	3	2	5	5	7	2	9	1	7
13	16	17	20	20	26	15	18	1	24

$$-9 = -10 + 5 - 4$$

A	B	C	D	E	F	G	H	I	J
6	24	9	34	28	25	18	35	8	24
5	23	5	23	25	20	15	21	6	18

A	B	C	D	E	F	G	H	I	J
7	5	14	34	17	27	15	36	27	16
5	5	11	31	15	25	15	35	26	15

A	B	C	D	E
8	24	34	14	7
5	14	32	12	6

$$-8 = -10 + 5 - 3$$

A	B	C	D	E	F	G	H	I	J
7	5	23	8	24	33	14	21	31	5
6	5	8	6	21	21	15	6	27	6

A	B	C	D	E	F	G	H	I	J
8	13	32	7	36	17	6	28	25	9
11	10	16	5	26	6	5	16	10	5

A	B	C	D	E
9	20	15	30	6
6	6	6	16	6

$$-7 = -10 + 5 - 2$$

A	B	C	D	E	F	G	H	I	J
4	9	6	4	34	13	3	24	8	33
5	7	7	6	18	11	5	9	6	35

A	B	C	D	E	F	G	H	I	J
6	23	7	35	5	25	23	9	6	31
5	24	6	27	7	16	8	6	6	16

A	B	C	D	E
5	8	8	14	7
5	5	7	4	5

$$-6 = -10 + 5 - 1$$

A	B	C	D	E	F	G	H	I	J
8	5	2	14	6	9	21	3	8	9
5	6	5	15	8	5	23	5	8	8

A	B	C	D	E	F	G	H	I	J
4	32	7	33	4	7	8	3	24	9
6	22	8	22	5	6	6	6	23	6

A	B	C	D	E
7	12	7	5	4
5	10	5	8	7

Practice

A	B	C	D	E	F	G	H	I	J
6	3	9	7	2	4	6	8	4	7
14	4	19	12	5	4	14	14	10	5

A	B	C	D	E	F	G	H	I	J
7	5	1	8	5	9	6	3	2	6
17	15	13	23	3	14	15	12	4	14

A	B	C	D	E	F	G	H	I	J
9	4	9	1	5	6	8	1	3	2
5	13	6	7	5	12	1	10	15	6

Practice

A	B	C	D	E	F	G	H	I	J
28	43	19	66	87	33	51	75	90	12
34	46	17	76	104	33	63	78	96	18

A	B	C	D	E	F	G	H	I	J
24	31	45	53	12	66	78	80	36	74
44	38	45	55	15	62	86	76	32	65

A	B	C	D	E	F	G	H	I	J
59	87	16	82	62	26	74	91	33	45
63	97	6	78	74	34	85	76	35	70