

# Kakuro

- Fill in the white cells in the grid with digits from 1 to 9.
- The sum of digits in each horizontal / vertical group of cells is given on its left/top.
- Digits do not repeat within any set of consecutive white cells.

Ignore the circles while solving. They are used for answer key purposes only.

Answer key: Some columns have one circled cell. Enter the symbols in the circles from left to right.

**Kakuro – 1 ( 2 points )**

	25	7	8		22	23
7				14		
				10		
21						
	○	9	16			
13				8	12	○
32						
13		○	8	○		
	○	○		○		○

**Kakuro – 2 ( 3 points )**

	13	8		7		8	9
6		○	10		○		
					11		
9			19		11		
		20					17
22			○	8		○	
				20			
	15	11				10	
	8	3					
				○	6		
14	○				9		○
	○	○	○	○	○	○	○

# Kakuro

➤ See previous page for rules.

Answer key: Some columns have one circled cell. Enter the symbols in the circles from left to right.

**Kakuro – 3 ( 4 points )**

	22	14		20			9	26
19			○		24			
11		○	8		4	3	○	
		20				19		○
	20	12			10		3	
14	26			14				
			12					22
	○	24					7	
4		6	13			10		
12				29		○		
	○	○	○			○	○	○

**Kakuro – 4 ( 5 points )**

	26	4	20	19		15	22	28	32		12	19		4	30
				○						15	○		10		
12				33					14		24		21	12	
		11		9	28					9		24		19	○
10		12	12		9		23				5		14		
6				18		○						○			
						○						○			○

# Magic Snail

- Fill in the snail like grid such that each row and column has some re-arrangement of all the letters of the given key.
- Some cells will remain blank.
- While reading the letters from outside towards the center, the order of the letters is to be same as the key. [E.g. in the example it should read as A-B-C-A-B-C...]

Ignore the circles while solving; they are used for answer key purposes.

Answer key: Some columns have one circled cell. Enter the symbols in the circles from left to right.

**Magic Snail – 1 ( 2 points )**

ABC

**Magic Snail – 2 ( 5 points )**  
ABC

**Magic Snail – 3 ( 3 points )**

ABC

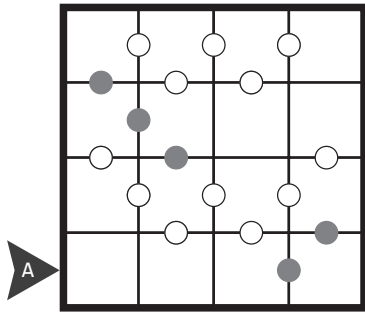
**Magic Snail – 4 ( 5 points )**  
ABBC

# Kropki

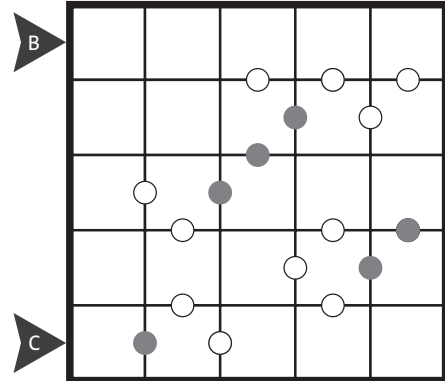
- Fill in the grid with digits 1 – N where N is the size of the grid so that each row and column contains each digit exactly once.
- If two consecutive digits appear in two neighboring cells, they are separated by white dot.
- If digit in a cell is half of digit in the neighboring cell, then they are marked by black dot.
- The dot between 1 and 2 can either be white or be black.

Answer key: Enter the digits in the marked rows.

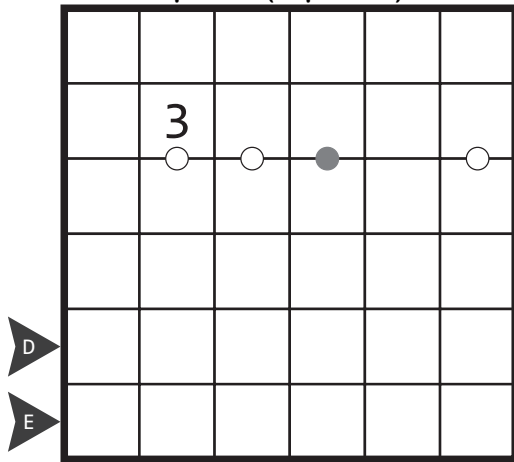
**Kropki – 1 ( 1 points )**



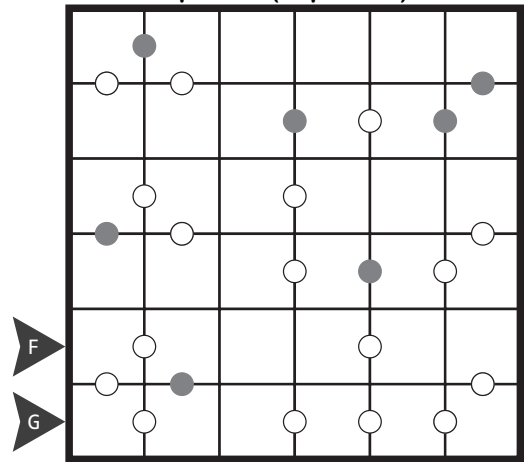
**Kropki – 2 ( 4 points )**



**Kropki – 3 ( 7 points )**



**Kropki – 4 ( 3 points )**



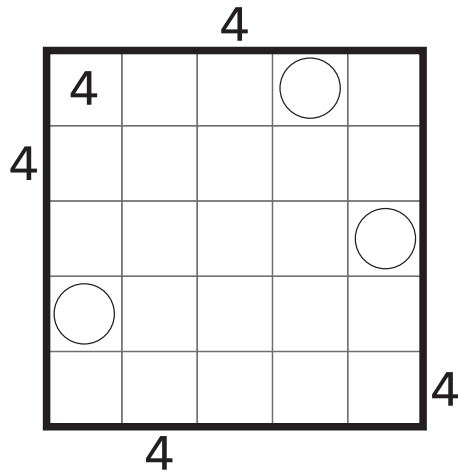
# Skyscrapers

- Fill in the grid with digits 1 – N where N is the size of the grid so that each row and column contains each digit exactly once.
- Each number inside the grid represents the height of a building.
- The clues outside of the grid indicate how many buildings can be seen when looking from that direction.
- Taller buildings block the view of smaller buildings.

Ignore the circles while solving. They are used for answer key purposes only.

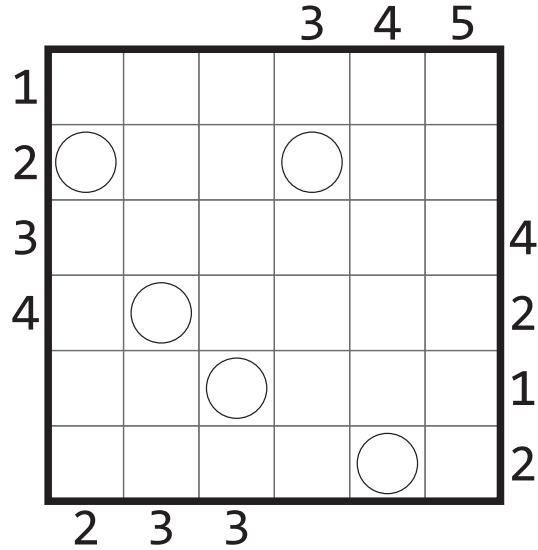
Answer key: Some columns have one circled cell. Enter the symbols in the circles from left to right.

**Skyscrapers – 1 ( 2 points )**



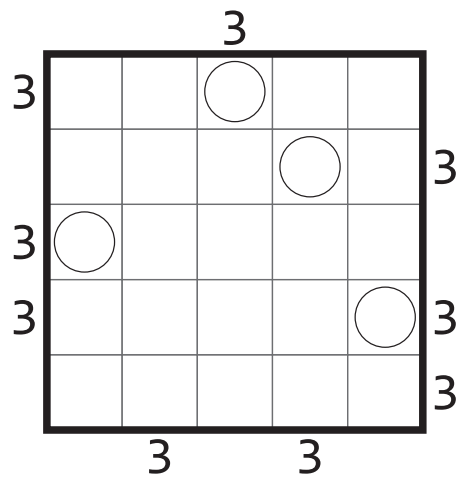
○ ○ ○

**Skyscrapers – 2 ( 6 points )**



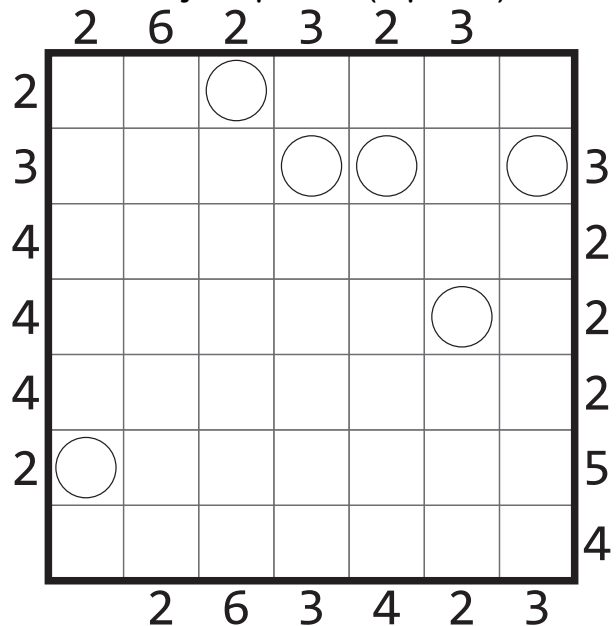
○ ○ ○ ○ ○

**Skyscrapers – 3 ( 6 points )**



○ ○ ○ ○

**Skyscrapers – 4 ( 7 points )**



○ ○ ○ ○ ○

## Easy As ABC [ Numbers ]

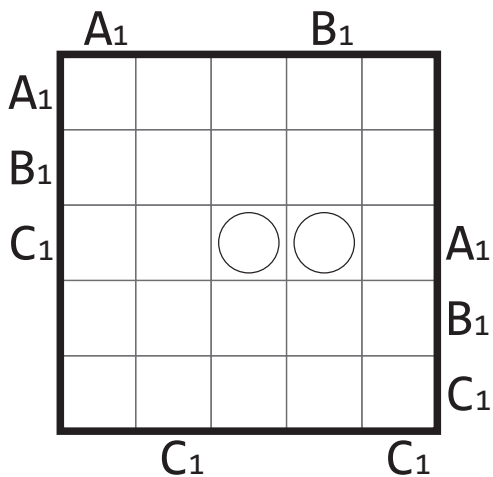
- Fill in the grid with letters from the given range so that each row and column contains each letter exactly once.
- Each row and column contains one blank cell.
- The clues outside the grid in the form  $X_N$ , indicate that X is the  $N^{\text{th}}$  letter seen in that row or column, in the corresponding direction.

Ignore the circles while solving. They are used for answer key purposes only.

Answer key: Some columns have one circled cell. Enter the symbols in the circles from left to right. Enter X for blank cells

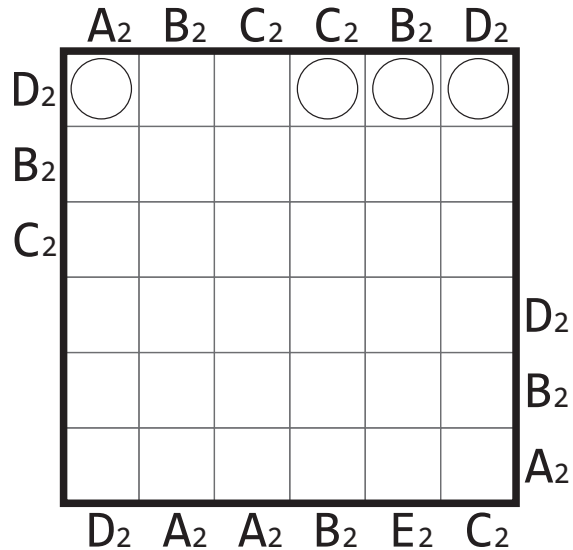
Easy As ABC – 1 ( 2 points )

A-D



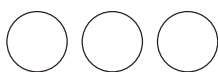
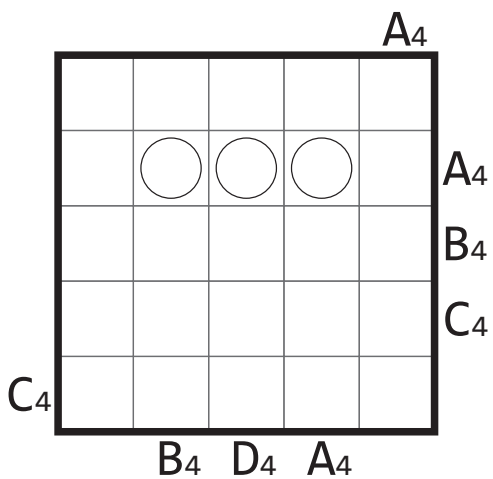
Easy As ABC – 2 ( 4 points )

A-E



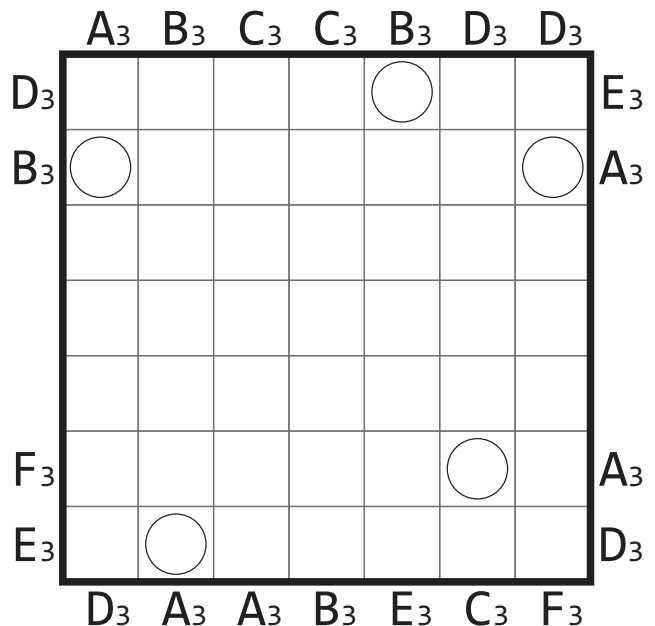
Easy As ABC – 3 ( 3 points )

A-D



Easy As ABC – 4 ( 7 points )

A-F



# KropKuro

12 points

- Apply Kakuro rules.
- If two consecutive digits appear in two neighboring cells, they are separated by white dot.
- If digit in a cell is half of digit in the neighboring cell, then they are marked by black dot.
- The dot between 1 and 2 can either be white or black.

Ignore the circles while solving. They are used for answer key purposes only.

*Answer key: Some columns have one circled cell. Enter the symbols in the circles from left to right.*

	24	45	20	8	31	19	45	21
17	○		○		13			
45						○	○	○
16				23				
28		○		29		12	○	
	28					16	●	
15	25	○		36				11
20		○		9		8		
45			○			5		
27					11			
	○	○	○		○			○

# ABC Skyscrapers

7 points

- Fill in the grid with letters A, B, C and digits 1, 2, 3 so that each row and column contains different symbols.
- (The first example uses A, B, 1, 2)
- Each number inside the grid represents the height of a building.
- The number clues outside of the grid indicate how many buildings can be seen when looking from that direction.
- Taller buildings block the view of smaller buildings, but letters do not affect visibility.
- Letters outside the grid indicate the first seen letters from the corresponding direction.

Ignore the circles while solving. They are used for answer key purposes only.

*Answer key: Some columns have one circled cell. Enter the symbols in the circles from left to right.*

	A	C	B	A	A	C		
1							A	
2	○						○	B
3		○	○					C
1								A
2				○	○			B
3								C
	2	2	1	3	2	1		
	○	○	○	○	○	○		

- End of Test -

# Kakuro

- Fill in the white cells in the grid with digits from 1 to 9.
- The sum of digits in each horizontal / vertical group of cells is given on its left/top.
- Digits do not repeat within any set of consecutive white cells.

Ignore the circles while solving. They are used for answer key purposes only.

Answer key: Some columns have one circled cell. Enter the symbols in the circles from left to right.

**Kakuro – 1 ( 2 points )**

	25	7	8		22	23	
7	1	4	2	14	9	5	
21	2	3	6	4	5	1	
	8	9	16	6	8	2	
13	4	2	7	8	12	8	
32	3	1	9	7	8	4	
13	7	6	8	1	4	3	
	8	6		1		8	

**Kakuro – 2 ( 3 points )**

	13	8		7		8	9
6	4	2	10	1	3	2	4
9	3	6	19	2	11	6	5
	1	20	9	4	7		17
22	5	9	8	20	3	1	4
	15	3	11	2	8	1	8
8	7	1		9	6	4	2
14	8	2	1	3	9	6	3
	8	2	8	9	3	1	3

# Kakuro

- See previous page for rules.

Answer key: Some columns have one circled cell. Enter the symbols in the circles from left to right.

**Kakuro – 3 ( 4 points )**

	22	14		20			9	26
19	7	9	2	1	24	7	8	9
11	6	5	8	7	1	3	1	2
	9	20	7	9	3	1	3	8
	26	9	8	3	10	2	1	7
14	9	3	2	12	1	9	2	
	8	6	9	6	2	7	7	5
4	3	1	13	9	4	10	2	8
12	6	5	1	29	7	8	5	9
	8	5	2		8	1	8	

**Kakuro – 4 ( 5 points )**

	26	4	20	19		15	22	28	32		12	19		4	30		
	8	3	9	7	1	6	5	4	2	15	6	5	4	10	2	1	7
12	6	1	3	2	33	9	8	7	6	3	24	7	8	9	12	3	9
	9	11	8	1	2	28	9	8	7	1	3	24	7	8	9	14	8
10	1	9	12	9	1	2	23	9	8	2	1	3	14	1	3	8	2
6	2	3	1	18	6	7	5		9	8	5	2	1	3	7	6	4
					1	5					6		1				8



### Magic Snail

- Fill in the snail like grid such that each row and column has some re-arrangement of all the letters of the given key.
- Some cells will remain blank.
- While reading the letters from outside towards the center, the order of the letters is to be same as the key. [E.g. in the example it should read as A-B-C-A-B-C...]

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Answer key: Some columns have one circled cell. Enter the symbols in the circles from left to right.

Magic Snail – 1 ( 2 points )

ABC

		(A)	C	B
(C)	(B)			A
	A	B		C
A		C	B	
B	C		(A)	(X)

(C) (B) (A) (A) (X)

Magic Snail – 3 ( 3 points )

ABC

A		(C)	(B)	
(X)	B		A	C
C		B		(A)
B	C	A		
	(A)		C	B

(X) (A) (C) (B) (A)

Magic Snail – 2 ( 5 points )  
ABC

	A		B				C
	C	(A)					B
B	(X)		C				A
		C	A	(B)			
(X)				C	(A)		B
A					B		(C)
C		B					A
	B			A	C		

(X) (X) (A) (B) (A) (C)

Magic Snail – 4 ( 5 points )  
ABBC

	-	A	(X)	(B)	B	C	
B	C	-	A			(B)	
(B)		B	C				A
A		C				B	B
C		B	B	(A)			
	(B)	A		C			B
	B	-	-	B	A		(C)

(B) (B) (X) (B) (A) (B) (C)

### Kropki

- Fill in the grid with digits 1 – N where N is the size of the grid so that each row and column contains each digit exactly once.
- If two consecutive digits appear in two neighboring cells, they are separated by white dot.
- If digit in a cell is half of digit in the neighboring cell, then they are marked by black dot.
- The dot between 1 and 2 can either be white or black.

Answer key: Enter the digits in the marked rows.

Kropki – 1 ( 1 points )

4	(•)	3	(•)	2	(•)	1
2	(•)	4	(•)	1	(•)	3
1	(•)	2	(•)	3	(•)	4
3	(•)	1	(•)	4	(•)	2

(A)

Kropki – 3 ( 7 points )

3	5	2	6	4	1	
1	3	5	2	6	4	
5	2	6	4	1	3	
2	6	4	1	3	5	
(D)	6	4	1	3	5	2
(E)	4	1	3	5	2	6

Kropki – 2 ( 4 points )

(B)	2	5	3	1	4		
	5	1	4	(•)	2	3	
	3	4	(•)	2	5	1	
	1	3	5	(•)	4	(•)	2
(C)	4	(•)	2	1	3	5	

Kropki – 4 ( 3 points )

2	(•)	4	6	1	5	3			
(•)	1	5	2	(•)	4	3	(•)	6	
3	(•)	2	5	(•)	6	1	4		
(•)	6	1	3	(•)	2	(•)	4	(•)	5
(F)	4	3	1	5	(•)	6	2		
(G)	5	(•)	6	4	3	(•)	2	(•)	1

### Skyscrapers

- Fill in the grid with digits 1 – N where N is the size of the grid so that each row and column contains each digit exactly once.
- Each number inside the grid represents the height of a building.
- The clues outside the grid indicate how many buildings can be seen when looking from that direction.
- Taller buildings block the view of smaller buildings.

Ignore the circles while solving. They are used for answer key purposes only.

Answer key: Some columns have one circled cell. Enter the symbols in the circles from left to right.

Skyscrapers – 1 ( 2 points )

			4			
	4	5	1	2	3	
4	1	3	2	4	5	
	2	4	3	5	1	
	3	2	5	1	4	
	5	1	4	3	2	4
			4			

3      2 1

Skyscrapers – 2 ( 6 points )

			3	4	5		
1	6	5	4	3	2	1	
2	4	6	5	1	3	2	
3	1	2	6	5	4	3	4
4	2	1	3	4	6	5	2
	3	4	1	2	5	6	1
	5	3	2	6	1	4	2
			2	3	3		

4 1 1 1 1

Skyscrapers – 3 ( 6 points )

			3			
	3	2	1	4	5	
	4	5	3	1	2	3
	1	3	2	5	4	
	2	4	5	3	1	3
	5	1	4	2	3	3
			3	3		

1      1 1 1

Skyscrapers – 4 ( 7 points )

			2	6	2	3	2	3	
2	6	1	4	3	5	2	7		
3	1	2	7	5	3	6	4	3	
4	2	3	6	7	1	4	5	2	
4	3	4	5	2	7	1	6	2	
4	4	5	3	1	6	7	2	2	
2	5	7	2	6	4	3	1	5	
	7	6	1	4	2	5	3	4	
			2	6	3	4	2	3	

5      4 5 3 1 4

### Easy As ABC [ Numbers ]

- Fill in the grid with letters from the given range so that each row and column contains each letter exactly once.
- Each row and column contains one blank cell.
- The clues outside the grid in the form  $X_N$ , indicate that X is the  $N^{\text{th}}$  letter seen in that row or column, in the corresponding direction.

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Answer key: Some columns have one circled cell. Enter the symbols in the circles from left to right. Enter X for blank cells

Easy As ABC – 1 ( 2 points )

A – D

			A <sub>1</sub>		B <sub>1</sub>	
A <sub>1</sub>	A	D	C	B		
B <sub>1</sub>	B	A		C	D	
C <sub>1</sub>	C	B	D		A	A <sub>1</sub>
		C	A	D	B	B <sub>1</sub>
	D		B	A	C	C <sub>1</sub>

D X

Easy As ABC – 3 ( 3 points )

A – D

					A <sub>4</sub>	
	B	D	A	C		
A		C	D	B	A <sub>4</sub>	
B	C	A		D	B <sub>4</sub>	
C	D		B	A	C <sub>4</sub>	
D	A	B	C			

X C D

Easy As ABC – 2 ( 4 points )

A – E

			A <sub>2</sub>	B <sub>2</sub>	C <sub>2</sub>	C <sub>2</sub>	B <sub>2</sub>	D <sub>2</sub>	
D <sub>2</sub>	B	D		A	C	E			
B <sub>2</sub>	A	B	E	C				D	
C <sub>2</sub>		E	C	D	B	A			
	E	A	B		D	C		D <sub>2</sub>	
	D	C	A	B	E			B <sub>2</sub>	
	C		D	E	A	B		A <sub>2</sub>	

B      A C E

Easy As ABC – 4 ( 7 points )

A – F

					A <sub>3</sub>	B <sub>3</sub>	C <sub>3</sub>	C <sub>3</sub>	B <sub>3</sub>	D <sub>3</sub>	D <sub>3</sub>	
D <sub>3</sub>	B	F	D	E	C				A		E <sub>3</sub>	
B <sub>3</sub>	E	D	B		A	F	C				A <sub>3</sub>	
	A		C	F	B	E	D					
		B	A	C	E	D	F					
	D	A		B	F	C	E					
F <sub>3</sub>	C	E	F	A	D	B					A <sub>3</sub>	
E <sub>3</sub>	F	C	E	D		A	B				D <sub>3</sub>	

E C      C B C

### KropKuro

12 points

- Apply Kakuro rules.
- If two consecutive digits appear in two neighboring cells, they are separated by white dot.
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Ignore the circles while solving. They are used for answer key purposes only.

*Answer key: Some columns have one circled cell. Enter the symbols in the circles from left to right.*

	24	45	20	8		31	19	45	21
17	9	4	1	3	13	2	6	4	1
45	7	1	3	5	2	6	8	9	4
16	3	8	5	23	8	1	5	2	7
28	5	3	7	4	1	8	12	3	9
	28	7	4	1	3	5	2	6	11
15	9	6	36	5	7	9	6	8	1
20	2	5	1	3	9	8	4	1	3
45	8	2	3	9	6	4	1	7	5
27	6	9	5	7	11	1	3	5	2
	9	3	1		6			4	

### ABC Skyscrapers

7 points

- Fill in the grid with letters A, B, C and digits 1, 2, 3 so that each row and column contains different symbols. (The first example uses A, B, 1, 2)
- Each number inside the grid represents the height of a building.
- The number clues outside of the grid indicate how many buildings can be seen when looking from that direction.
- Taller buildings block the view of smaller buildings, but letters do not affect visibility.
- Letters outside the grid indicate the first seen letters from the corresponding direction.

Ignore the circles while solving. They are used for answer key purposes only.

*Answer key: Some columns have one circled cell. Enter the symbols in the circles from left to right.*

	A	C	B	A	A	C	
1	3	C	B	A	1	2	A
2	A	2	C	B	3	1	B
3	1	B	2	3	A	C	C
1	C	3	1	2	B	A	A
2	2	A	3	1	C	B	B
3	B	1	A	C	2	3	C
	2	2	1	3	2	1	
	A	B	2	1	C	1	

- End of Test -