MathMaverick.com

John L. Lehet
Puzzle Sampler

Included are examples of 25 original puzzles of varying difficulty
by
John L. Lehet

HexCodes

HoneyComb Puzzles

OcTangle Puzzles

Self-Referential Puzzles (difficult)

Math Riddles

Magic Puzzles

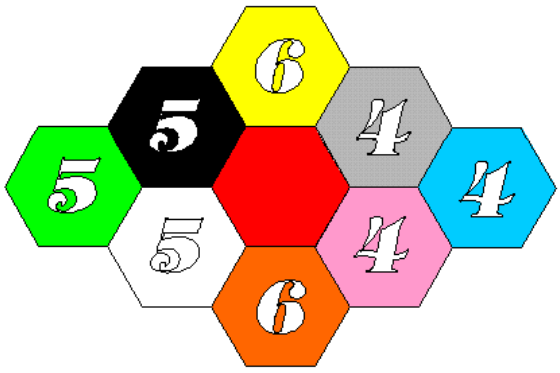
and

others!

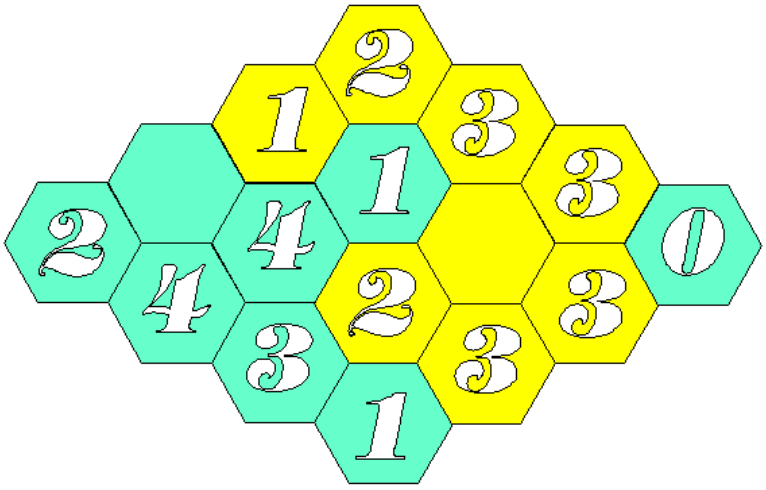
HexCodes

In each puzzle, fill in each empty hexagon with a number or letter that continues the pattern established in the other hexagons.

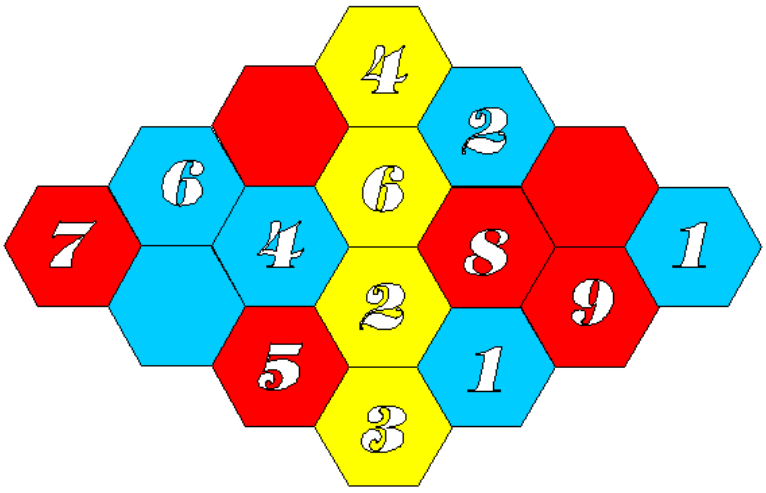
Puzzle #1



Puzzle #2



Puzzle #3

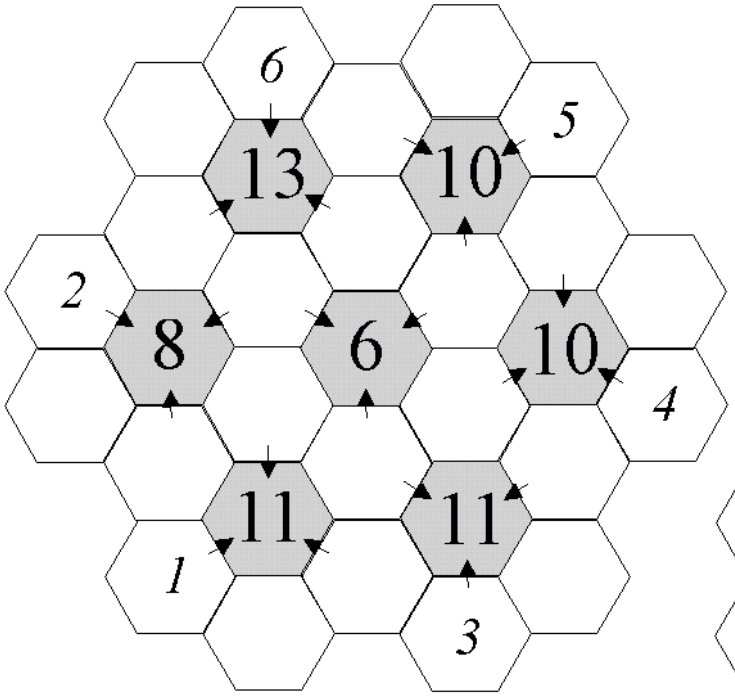


HoneyCombs

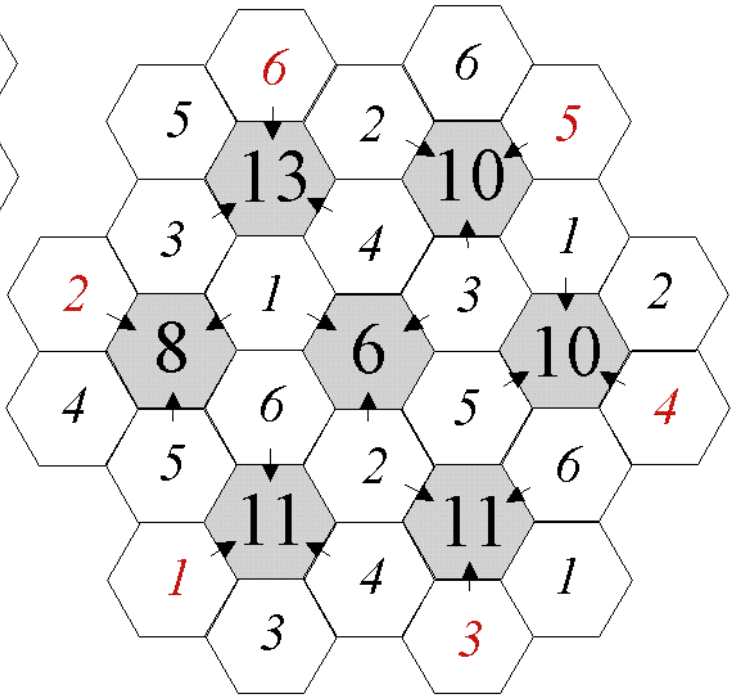
HoneyCombs are a new sudoku-like puzzle comprised of 31 hexagons, 7 Gray and 24 white. Each yellow hexagon is surrounded by six white hexagons, three of which "point" to the yellow hexagon. There is a number is each yellow hexagon. This number is the sum of the three numbers contained in the three white hexagons that point to it. The objective is to fill in all of the empty white hexagons

In order to solve a HoneyComb puzzle, you need to place a number (1 through 6) in each empty hexagon following these simple rules:

1. The number in each yellow hexagon is the sum of the three numbers in the white hexagons that point to it
2. Each yellow hexagon is surrounded by the numbers 1 through 6, using each number once and only once for each of the six surrounded hexagons.

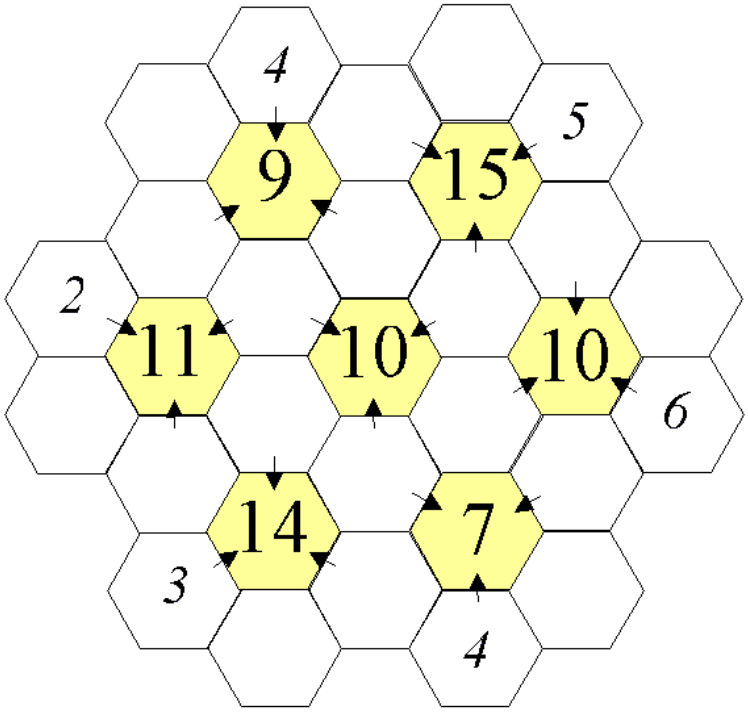


Example Puzzle

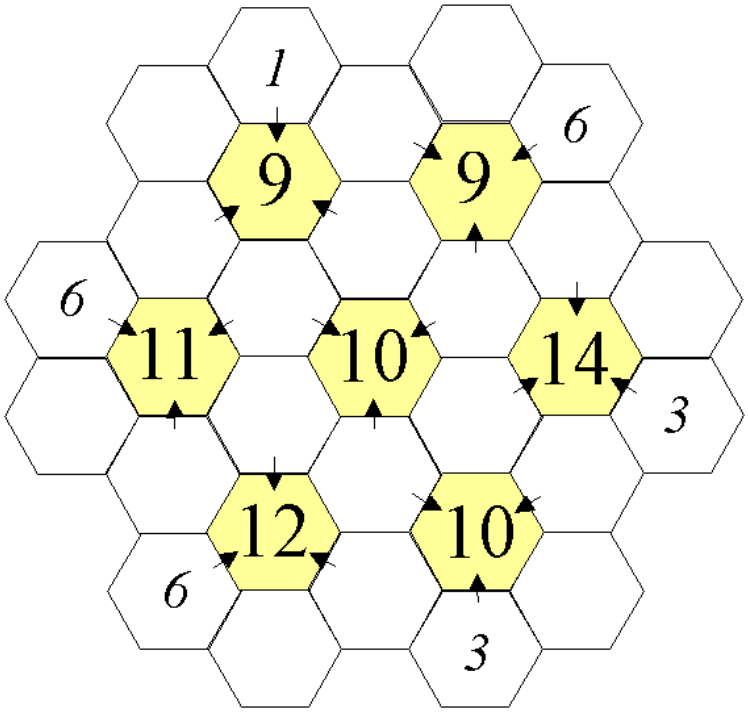


Solution

Puzzle #1

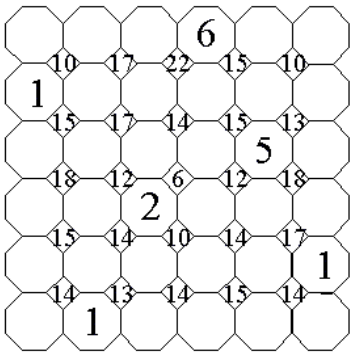


Puzzle #2



OcTangles

An Exciting New Sudoku-like Puzzle!



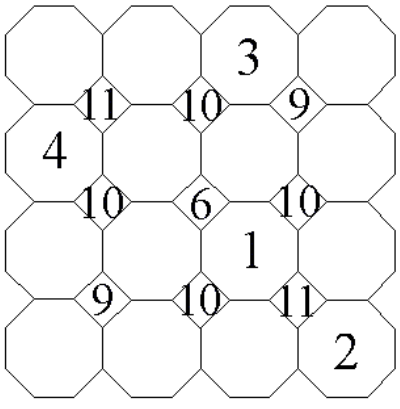
Featured in the February and June 2007 issues of GAMES Magazine

OcTangles are a new sudoku-like puzzle comprised of rows and columns of octagons and squares. Each square is surrounded by four adjacent octagons. In addition, each square contains a number. This number is the sum of the numbers that need to be placed in the four adjacent octagons. At the start of a puzzle, an octagon may or may not contain a number.

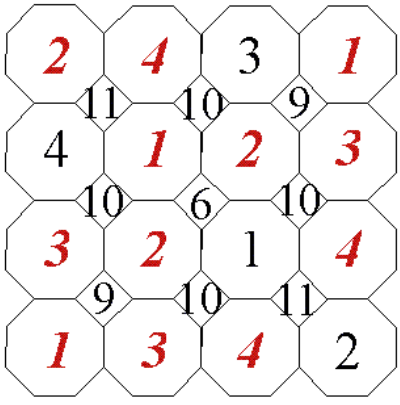
In order to solve an ***OcTangle***, you need to place a number in each empty octogon following these four simple rules:

1. the number in each square is the sum of the numbers in the four adjacent octagons
2. there is one and only one of each number in each row of octagons
3. there is one and only one of each number in each column of octagons
4. the numbers placed in the octagons are between 1 and the number of rows

OcTangles come in 4x4, 5x5, 6x6, 7x7, 8x8 and 9x9 grids. Here's an example 4x4 puzzle and its solution.

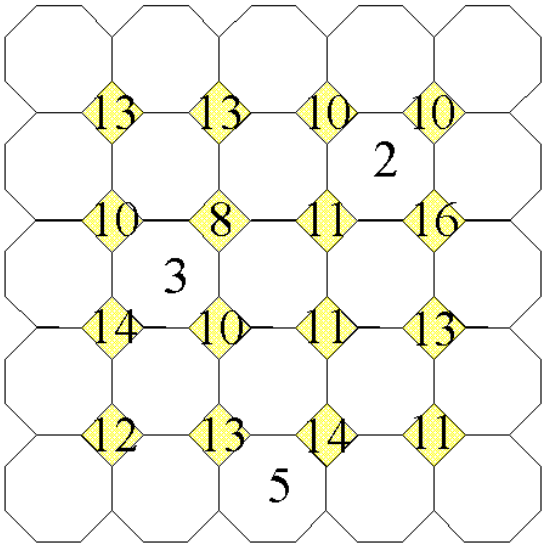


Example Puzzle

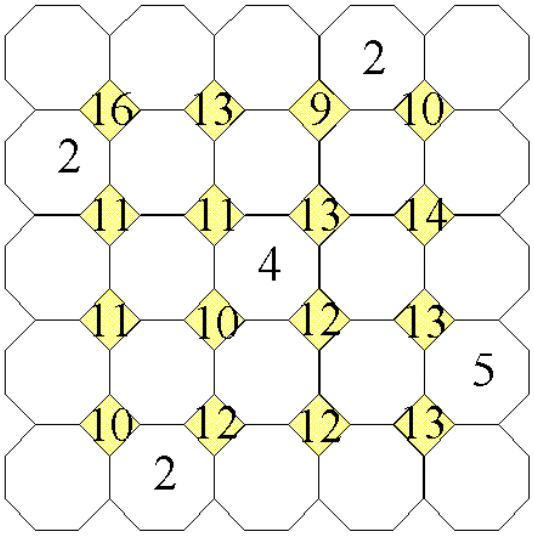


Solution

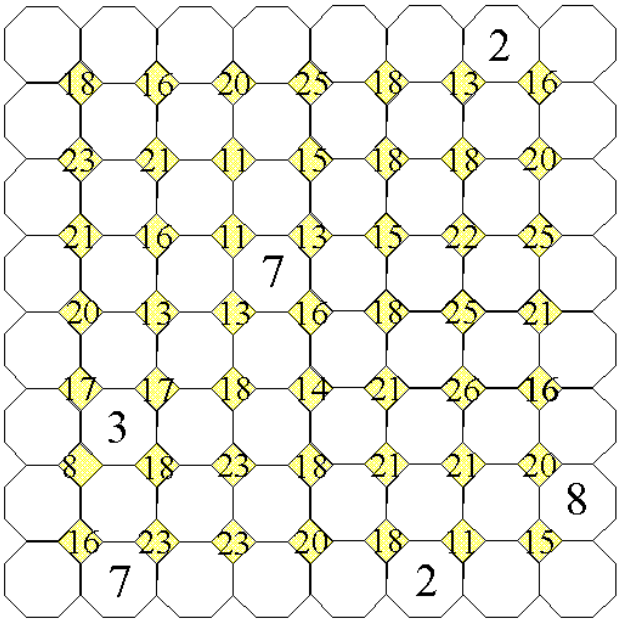
Puzzle #3



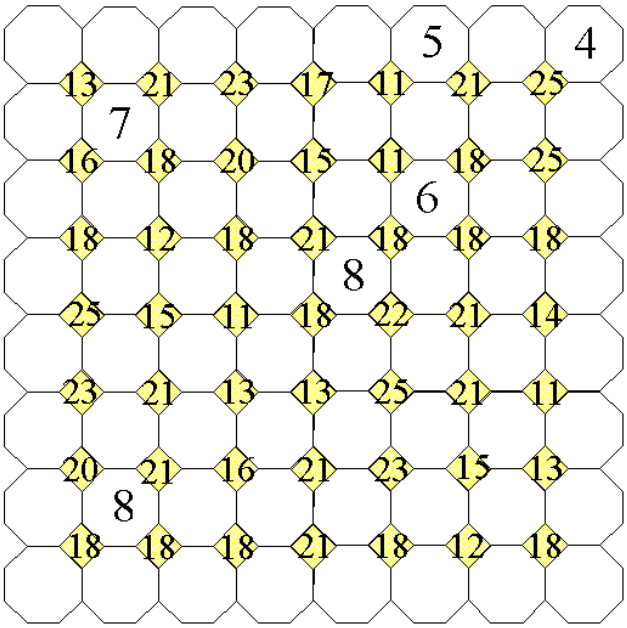
Puzzle #4



Puzzle #63



Puzzle #64



Self-Referential Puzzles

Overview

A Self-Referential puzzle consists of a series of multiple choice questions. Each question typically makes reference to all or some of the other questions in the puzzle. At first glance, Self-Referential puzzles may appear to be non-sense. However, be assured, each puzzle does have a viable solution consisting of correct answers to each of the questions.

It sounds simple, but the objective of the puzzle is to answer each of the questions so that each answer is correct. The difficult part is that the answer to one question may adversely impact the answer to one or more other questions. Logic must be applied to eliminate answers that necessarily lead to a contradiction as well as to select answers that are viable.

Here's an example Self-Referential puzzle consisting of three questions, each of which makes reference to all of the questions:

1. In questions 1-3, how many correct answers are > 2 ?

0
1
2
3

2. In questions 1-3, how many correct answers are < 2 ?

0
1
2
3

3. In questions 1-3, how many correct answers are = 2 ?

0
1
2
3

Looking at this Self-Referential puzzle example, a few conclusions can immediately be made. The first is that the sum of the three answers must necessarily be 3, due to this mutual exclusion implied by each question (e.g. an answer can not be both equal to 2 AND less than 2).

Can any of the questions have an answer of 3? If question #3 has a correct answer of 3, then it could be concluded that each questions had an answer equal to 2. This would contradict the assumption that the answer to question #3 was 3. Therefore, the answer to question #3 cannot be 3. Similarly, the answer to question #2 can not be 3. Therefore, at this point, only one question, specifically question #1, can have an answer of 3, which would imply all of the three answers were greater than 2. Again a contradiction. Therefore, none of the questions have a correct answer of 3. Therefore, the answer to question #1 must be 0 (as there are no questions with a correct answer greater than 2).

Therefore, the sum of the answers to questions #2 and #3 must be 3. However, we have established that neither have a correct answer of 3. Therefore, neither can have a correct answer of 0 (as this would make the other necessarily have a correct answer of 3). Therefore, one must be 2 and the other must be 1. From this it can be concluded that the number correct answers equal to 2 (i.e. question 3) must be 1. So the answer to question #3 is 1 and the answer to question #2 must necessarily be 2. Therefore, the answers are 0, 2, 1 respectively. This make sense as there are 0 answers greater than 2, 2 answers less than 2 and 1 answer equal to 2.

Self-Referential Puzzle #1

Each of the following questions has one and only one correct answer, so that all three questions are correct.

1. In questions 1-3, how many correct answers are ∃1 ?

0
1
2
3

2. In questions 1-3, how many correct answers are # 1 ?

0
1
2
3

3. In questions 1-3, how many correct answers are □ 1 ?

0
1
2
3

Self-Referential Puzzle #2

Each of the following questions has one and only one correct answer, so that all five questions are correct.

1. In questions 1-5, how many correct answers are 0 ?

0
1
2
3
4

2. In questions 1-5, how many correct answers are 1 ?

0
1
2
3
4

3. In questions 1-5, how many correct answers are 2 ?

0
1
2
3
4

4. In questions 1-5, how many correct answers are 3 ?

0
1
2
3
4

5. In questions 1-5, how many correct answers are 4 ?

0
1
2
3
4

Riddle-Me Math

A Collection of Original Math Riddles

1

I have six faces
All the same
Each touching four
To make my frame

What am I?

2

Cats have 4,
You have 2,
And I have 3!
What can I be?

3

Although it may seem funny,
Some say that time is money
So if a dollar were a century
Then this would be a year!

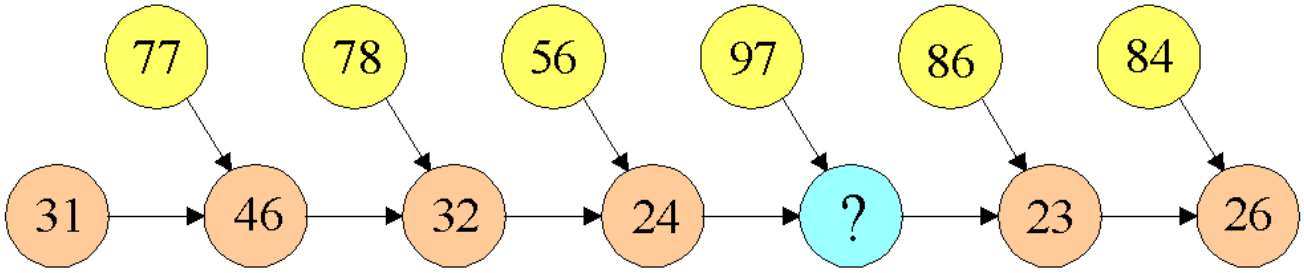
4

A number whose name is twice
The number of letters in it?

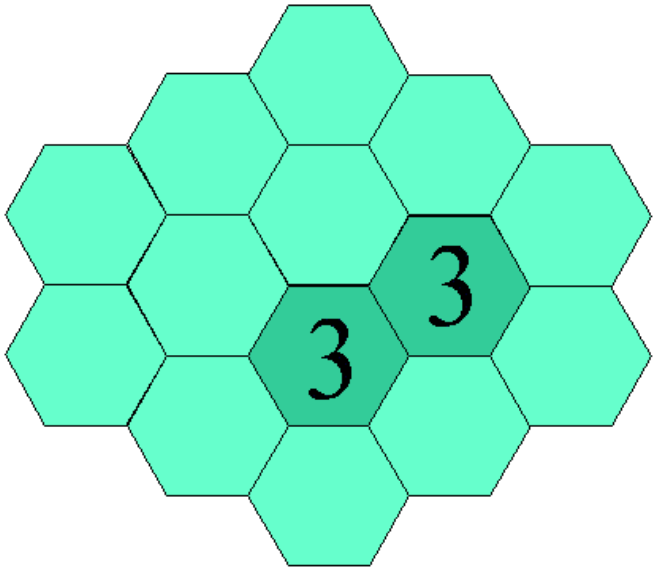
In this puzzle, two numbers are combined to make a third number. The numbers are combined the same way, in a seemingly obvious manner. The object is to determine the what the number the "?" is equal to so the pattern is intact.

Be Careful! It's much harder than you think!

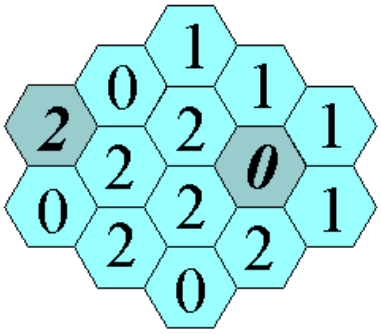
#1



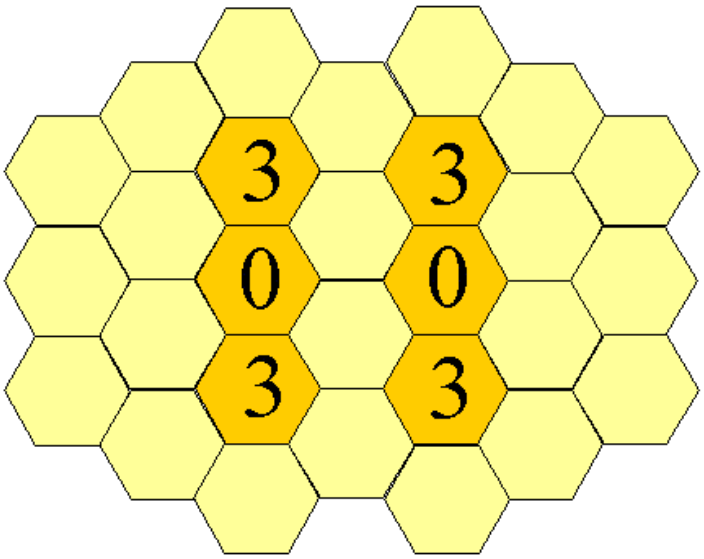
In this puzzle, fill in each hexagon with the number of adjacent cells that contain 0



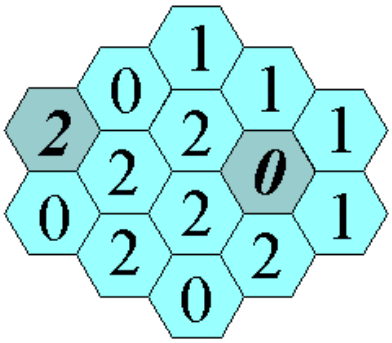
Example



In this puzzle, fill in each hexagon with the number of adjacent cells that contain 0



Example

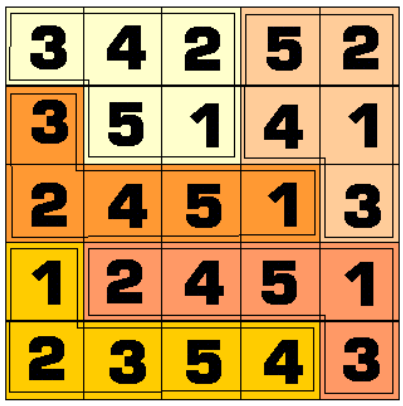


5 Squares

In each puzzle, make five boxes such that each box includes five squares and the numbers 1, 2, 3, 4 and 5. All squares must be enclosed, but within only one box and no box can scan an entire row or column.

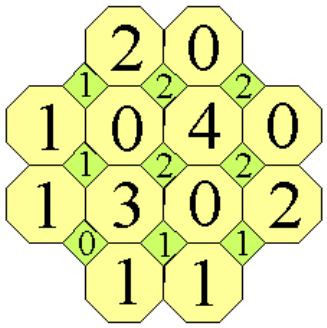
5	2	3	1	4
1	1	2	3	2
4	3	4	1	5
5	4	2	5	3
1	3	5	2	4

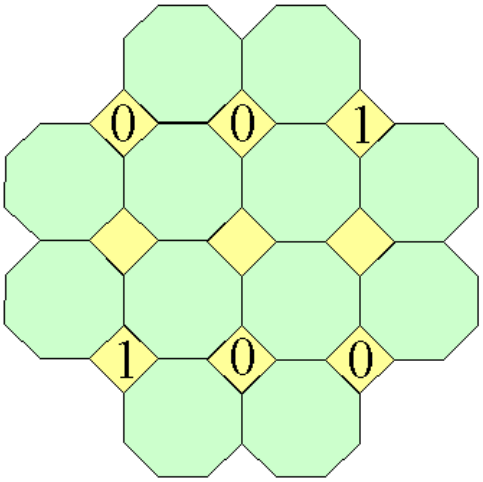
Example

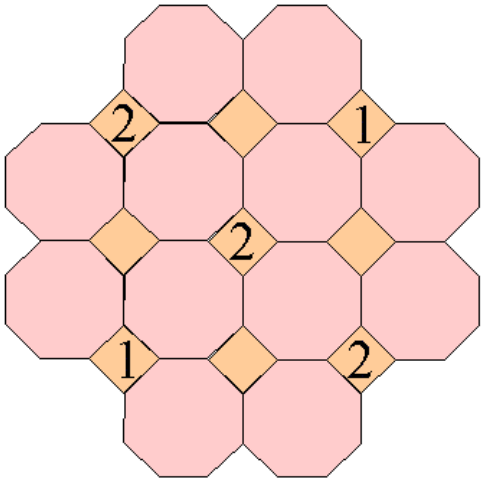


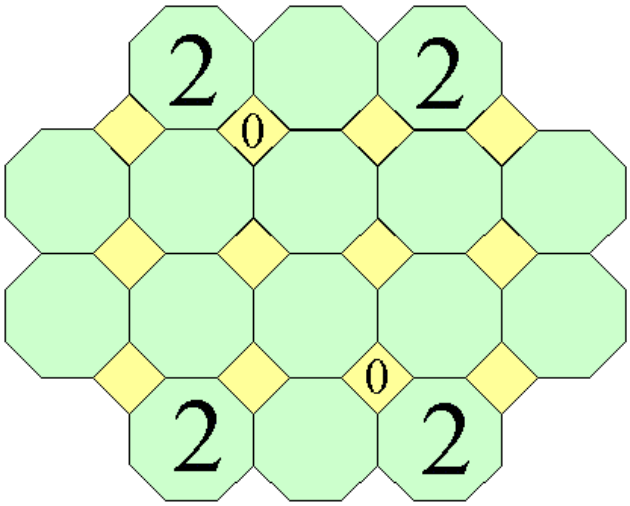
In each puzzle, fill in each square and octagon with the number of adjacent cells that contain 0

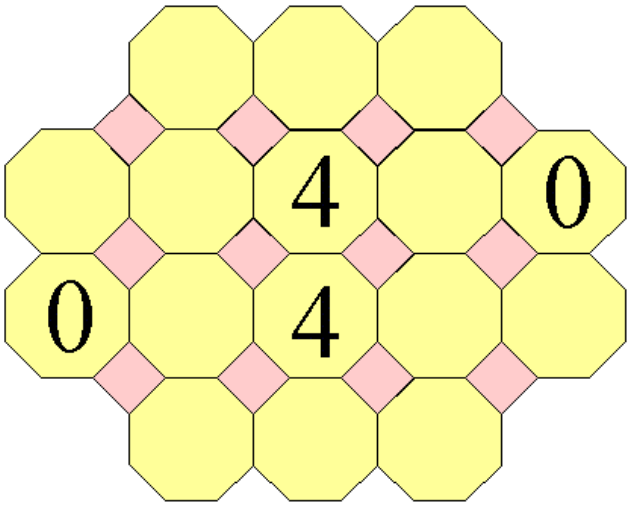
Example







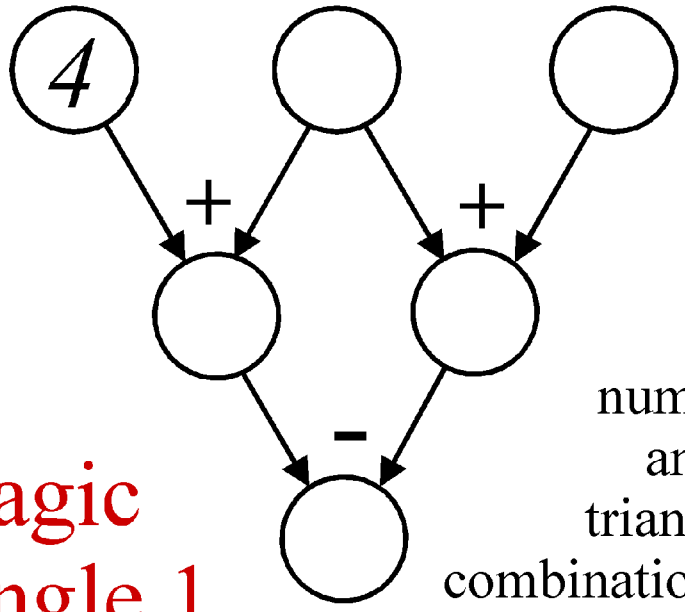




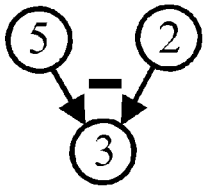
Magic Puzzles

(Number Circuit Puzzles Books)

Magic Triangle 1



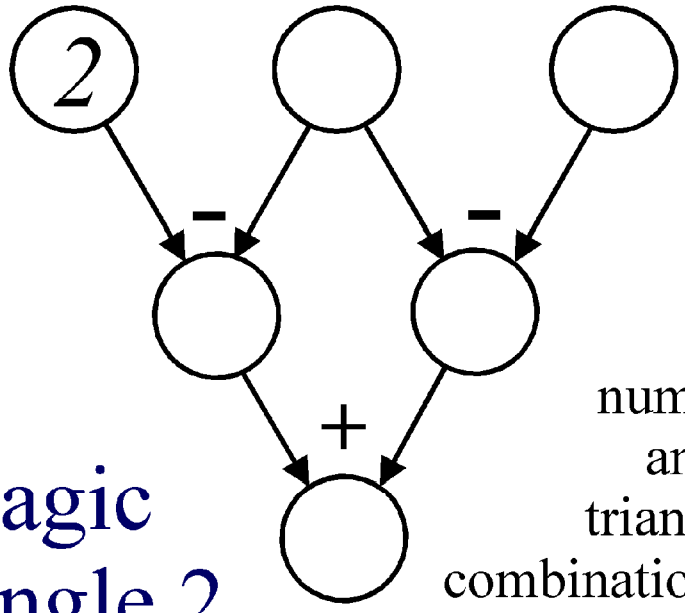
Example



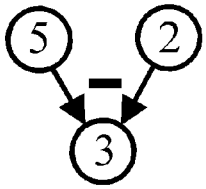
5 - 2 = 3

Arrange the numbers 1,2,3,4,5 and 6 to make a triangle so that the combination of each pair is the number below them

Magic Triangle 2



Example



5 - 2 = 3

Arrange the numbers 1,2,3,4,5 and 6 to make a triangle so that the combination of each pair is the number below them