A ♣

Sum Groups 7

THE CHALLENGE: Break this whole square into groups of two or three numbers that add up to 7. A group's numbers must share sides. Is there only one way to solve this?

4	2	4	3
3	1	2	5
3	2	3	7
1	5	4	0

♣ A

2 ♣

Sum Groups 9

THE CHALLENGE: Break this whole square into groups of two or three numbers that add up to 9. A group's numbers must share sides. Is there only one way to solve this?

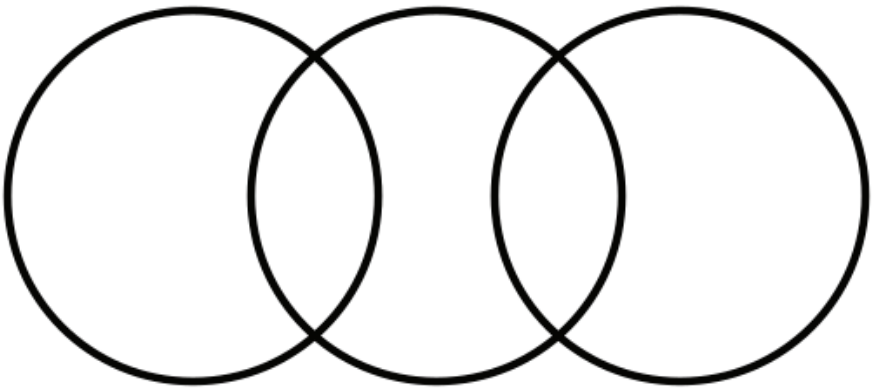
5	5	4	5
2	4	2	7
2	6	3	6
1	8	1	2

♣ 2

3 ♣

Equal Sums 1

THE CHALLENGE: These three circles create 5 regions. Put 1 to 5 once each in these regions so the sum of the numbers in each circle is the same.



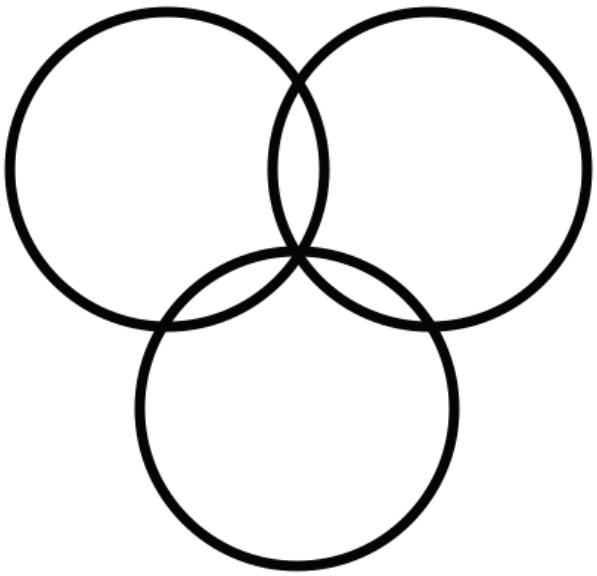
1 2 3 4 5

♣ 3

4 ♣

Equal Sums 2

THE CHALLENGE: These three circles create 6 regions. Put 1 to 6 once each in these regions so the sum of the numbers in each circle is the same.



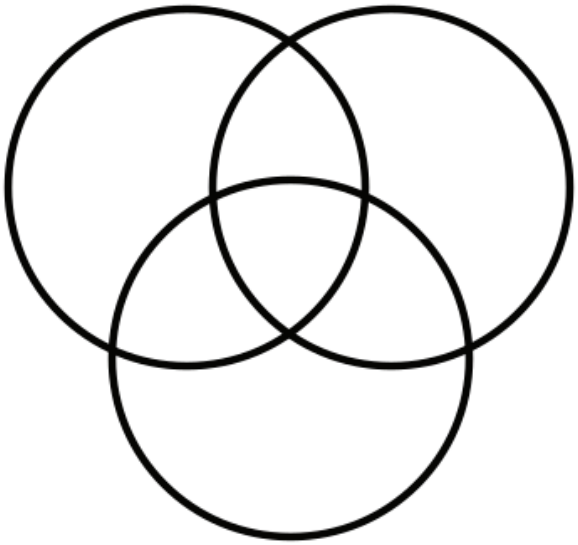
1 2 3 4 5 6

♣ 4

5 ♣

Equal Sums 3

THE CHALLENGE: These three circles create 7 regions. Put 1 to 7 once each in these regions so the sum of the numbers in each circle is the same.



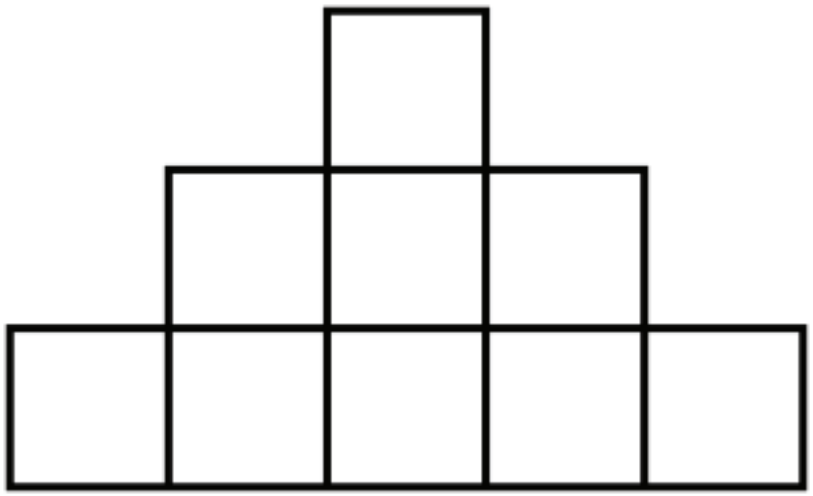
1 2 3 4 5 6 7

♣ 5

6 ♣

Consecutive Numbers 1

THE CHALLENGE: Place the numbers from 1 to 9 so the boxes for consecutive numbers do not share a side or touch diagonally.



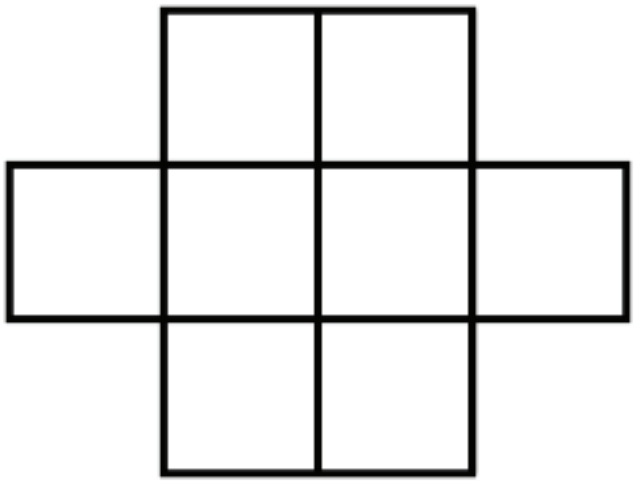
1 2 3 4 5 6 7 8 9

♣ 9

7 ♣

Consecutive Numbers 2

THE CHALLENGE: Place the numbers from 1 to 8 so the boxes for consecutive numbers do not share a side or touch diagonally.



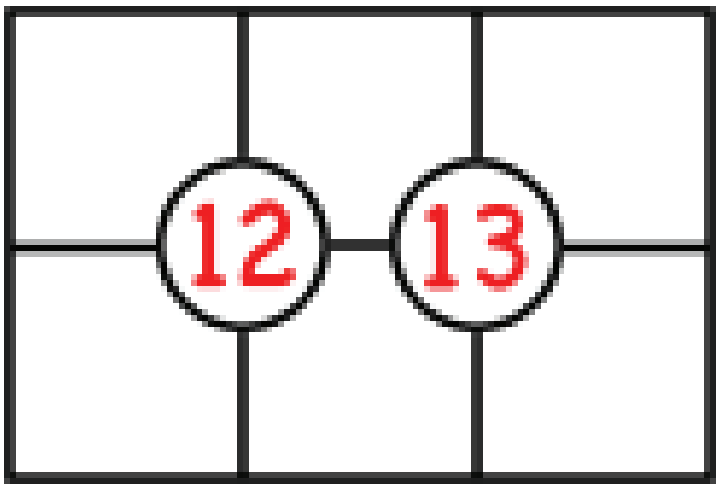
1 2 3 4 5 6 7 8

♣ 7

8♣

Sujiko Puzzle 1

THE CHALLENGE: Use the numbers from 1 to 6 in the six squares. Each circled number must be the sum of the four squares surrounding it.



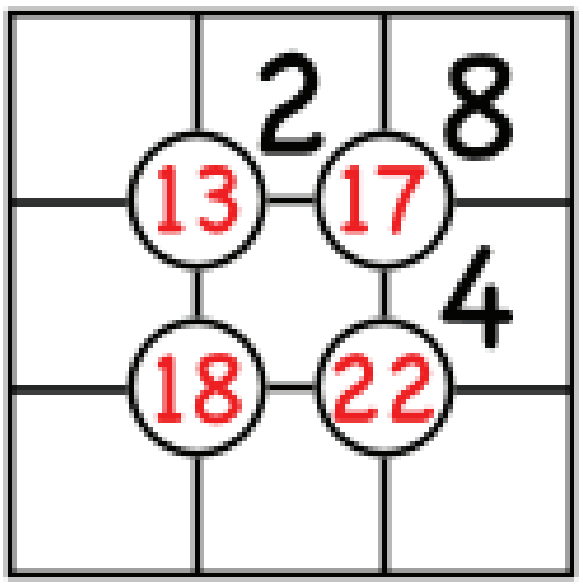
1 2 3 4 5 6

8♣

9 ♣

Sujiko Puzzle 2

THE CHALLENGE: Use the numbers from 1 to 9 in the nine squares. Each circled number must be the sum of the four squares surrounding it.



1 3 5 6 7 9

♣ 6

10 ♣

Parentheses 1

Where you put parentheses can change the value of an expression. For example, $5 - 3 + 1$ can become $5 - (3 + 1) = 1$ or $(5 - 3) + 1 = 3$.

THE CHALLENGE: Find places to put parentheses in these two expressions to make each one have the value 6.

$$10 - 3 - 5 - 2 + 8 - 4$$

$$7 - 4 \times 8 - 3 + 4 \times 2$$

♣ 01

J ♣

Magic Squares 1

In ***Magic Squares,*** all rows, columns, and diagonals add up to the same number.

THE CHALLENGE: Use the numbers 3, 5, 6, and 9 once each to complete this Magic Square.

8	1	
		7
4		2

♣ J

Q ♣

Magic Squares 2

In ***Magic Squares,*** all rows, columns, and diagonals add up to the same number.

THE CHALLENGE: Use the numbers 1, 2, 4, 7 and 8 once each to complete this Magic Square.

	9	
	5	3
6		

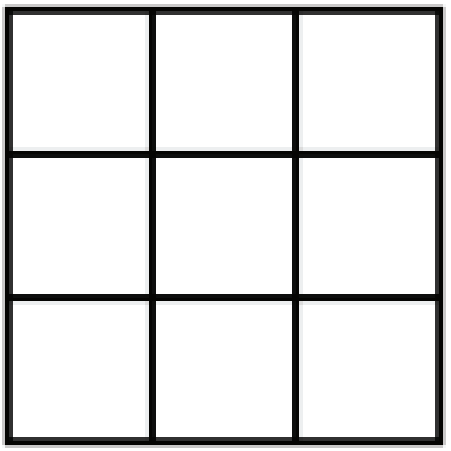
♣ Q

K ♣

Magic Squares 3

In ***Magic Squares,*** all rows, columns, and diagonals add up to the same number.

THE CHALLENGE: Use the numbers 0 to 8 once each to complete a Magic Square. Is there more than one way?



♣ K

Sum Groups 6

THE CHALLENGE: Break this whole square into groups of two or three numbers that add up to 6. A group's numbers must share sides. Is there only one way to solve this?

5	1	2	2
3	1	1	2
1	2	3	6
2	3	2	0

2♥

Sum Groups 8

THE CHALLENGE: Break this whole square into groups of two or three numbers that add up to 8. A group's numbers must share sides. Is there only one way to solve this?

0	8	3	2
2	4	4	3
6	5	5	7
1	2	3	1

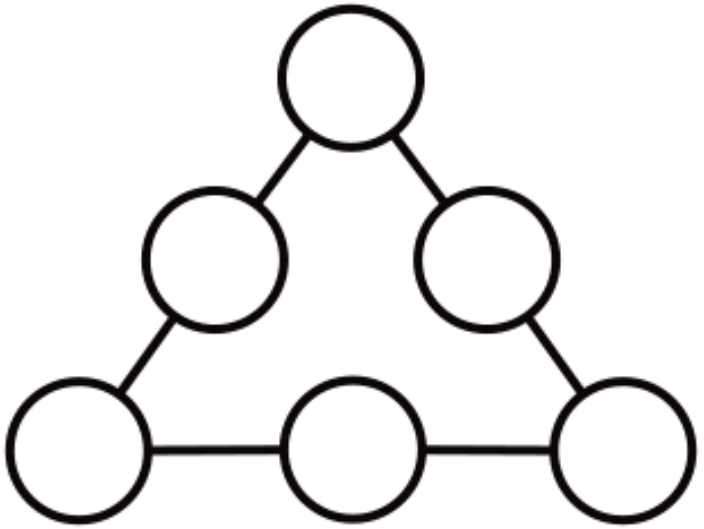
2♥

3 ♥

Magic Triangles 1

The circles on each side of a ***Magic Triangle*** add up to the same thing.

THE CHALLENGE: Use 1 to 6 once each to make Magic Triangles. How many ways can you do it?



1 2 3 4 5 6

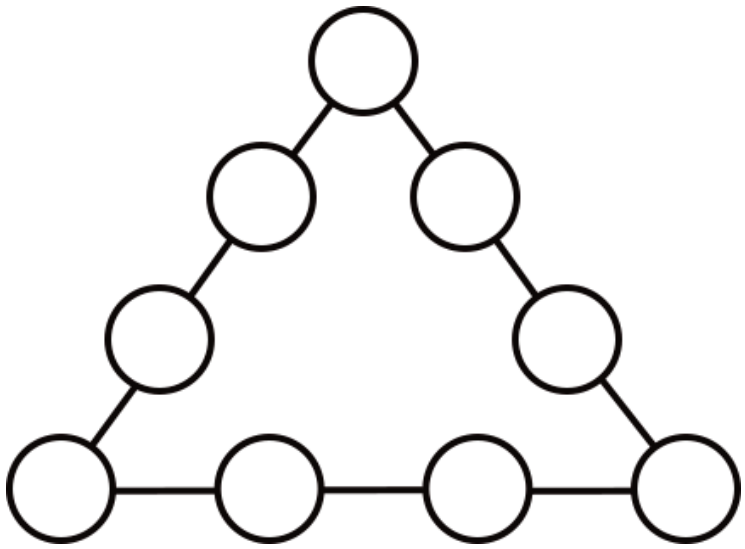
♥ 3

4 ♥

Magic Triangles 2

The circles on each side of a ***Magic Triangle*** add up to the same thing.

THE CHALLENGE: Use 1 to 9 once each to make Magic Triangles. How many ways can you do it?



1 2 3 4 5 6 7 8 9

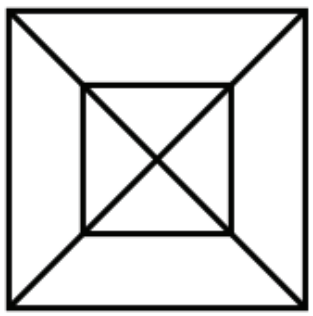
♥ 4

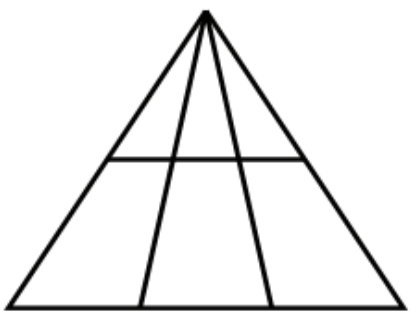
5 ♥

Finding the Pieces 1

A ***trapezoid*** has exactly one pair of parallel sides.

THE CHALLENGE: Count the number of triangles and trapezoids in these two figures.





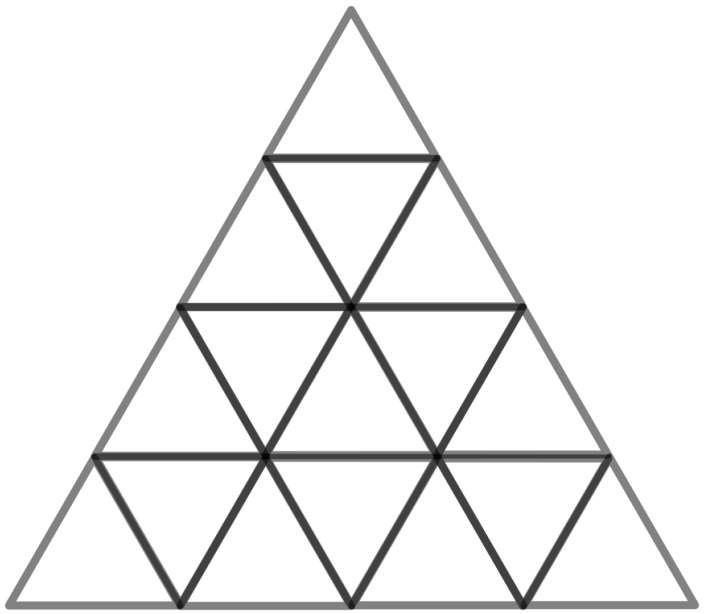
♥ 5

6 ♥

Finding the Pieces 2

A ***trapezoid*** has one pair of parallel sides, a ***parallelogram*** has two pairs.

THE CHALLENGE: Count the number of triangles, trapezoids, and parallelograms in this pyramid.

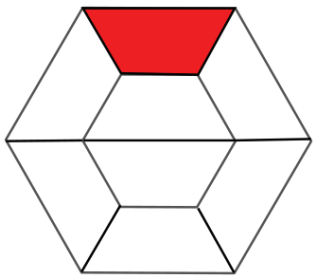


♥ 9

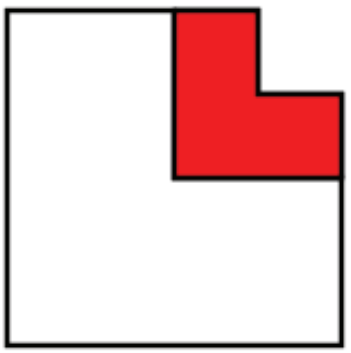
7 ♥

Finding the Pieces 4

The white part of this figure is broken into 7 parts like the red one.

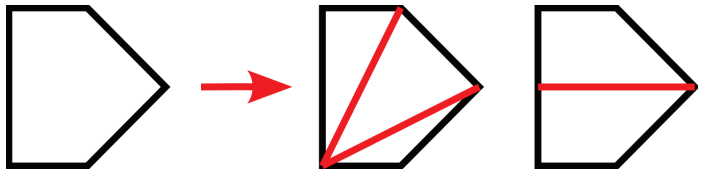


THE CHALLENGE: Count how many times the red figure fits into the unshaded figure for each of these.



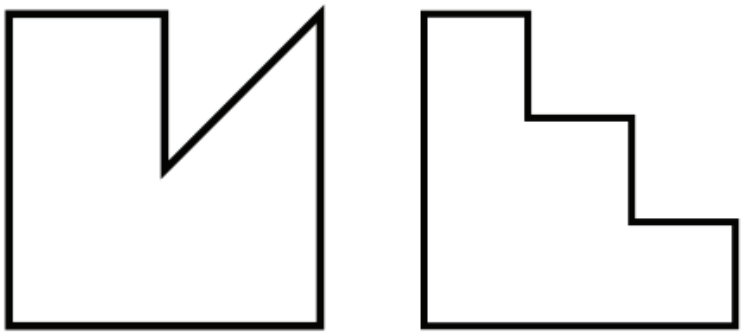
♥ 7

Finding the Pieces 5



A ***trapezoid*** has one pair of parallel sides. The figure above is broken into as few triangles and trapezoids as possible.

THE CHALLENGE: Do the same for these two figures.



9 ♥

Letter Substitutions 1

In ***Letter Substitution Puzzles,*** each letter is a digit from 0 to 9, different letters within a single puzzle have different values, and no number has 0 as its leftmost digit.

THE CHALLENGE: Find the value of the letters in these 3 puzzles.

```
  C      E      F
+ 8    + E    + F
-----  -----  -----
  D      8    G 4
```

♥ 6

10 ♥

Letter Substitutions 2

In ***Letter Substitution Puzzles,*** each letter is a digit from 0 to 9, different letters within a single puzzle have different values, and no number has 0 as its leftmost digit.

THE CHALLENGE: Find the value of the letters in these 2 puzzles.

```
  C        F
+ 2      + G
-----    -----
D E      F H
```

♥ 01

J♥

Letter Substitutions 3

In ***Letter Substitution Puzzles,*** each letter is a digit from 0 to 9, different letters within a single puzzle have different values, and no number has 0 as its leftmost digit.

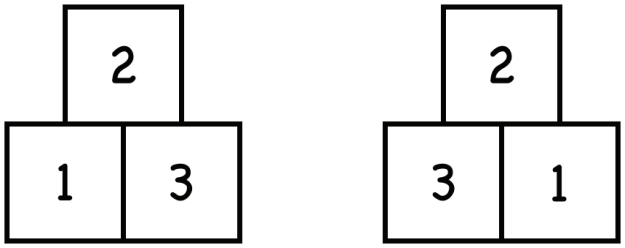
THE CHALLENGE: Find the value of the letters in these 2 puzzles.

```
  A
  A
+ 6
-----
B B
```

```
  C
  C
+ 6
-----
  D
```

♥J

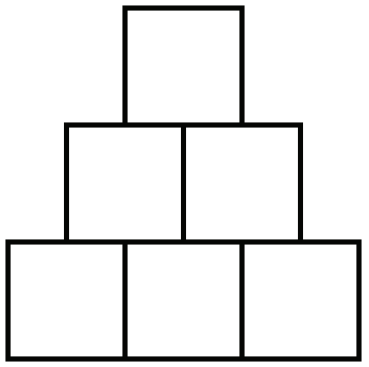
Difference Pyramids 1



In a ***Difference Pyramid,*** each number is the difference of the two numbers below it.

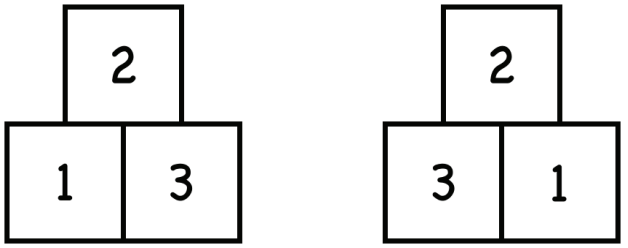
THE CHALLENGE:

Use the numbers from 1 to 6 once to make a Difference Pyramid.



K ♥

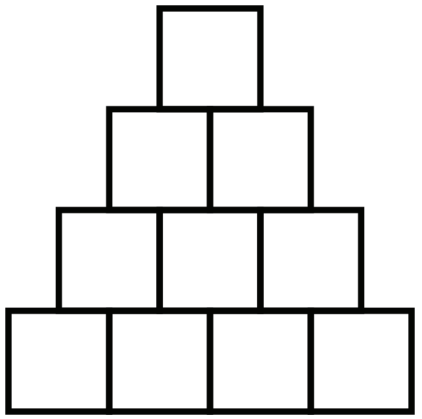
Difference Pyramids 2



In a ***Difference Pyramid,*** each number is the difference of the two numbers below it.

THE CHALLENGE:

Use the numbers from 1 to 10 once to make a Difference Pyramid.



♥ K

A

Sum Groups 7

THE CHALLENGE: Break this whole square into groups of two or three numbers that add up to 7. A group's numbers must share sides. Is there only one way to solve this?

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

A

2 ♠

Sum Groups 9

THE CHALLENGE: Break this whole square into groups of two or three numbers that add up to 9. A group's numbers must share sides. Is there only one way to solve this?

5	4	3	6
7	4	2	3
2	5	3	6
8	1	1	3

♠ 2

3 ♠

Sum Groups 10

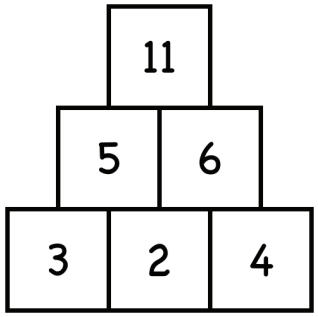
THE CHALLENGE: Break this whole square into groups of two or three numbers that add up to 10. A group's numbers must share sides. Is there only one way to solve this?

8	9	1	3
1	1	3	4
6	3	5	5
4	7	1	9

♠ 3

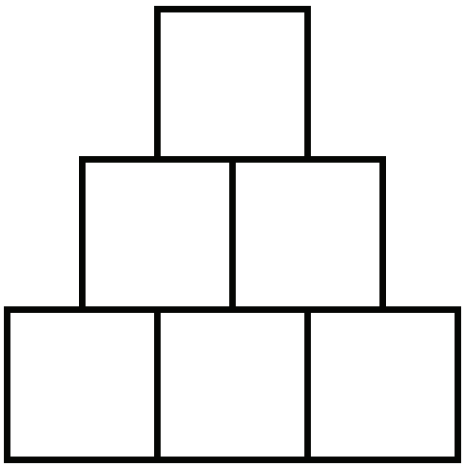
4

Sum Pyramids 1



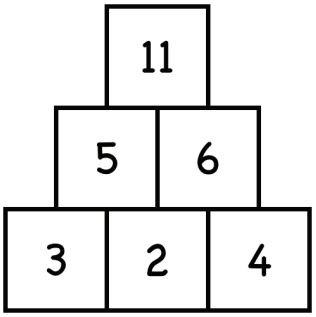
In a ***Sum Pyramid,*** each number is the sum of the two numbers below it.

THE CHALLENGE: Use the numbers from 1 to 10, at most once, to make a Sum Pyramid.



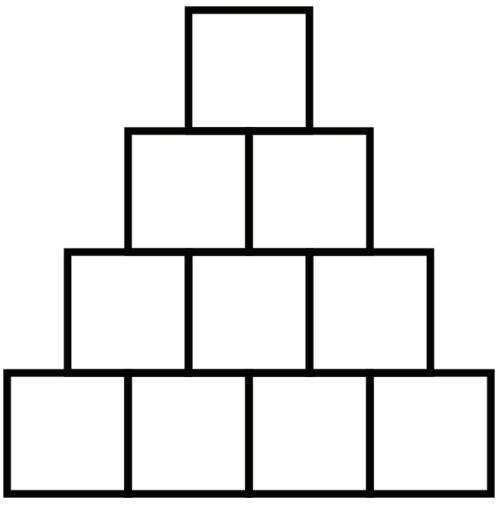
5 ♠

Sum Pyramids 2



In a ***Sum Pyramid,*** each number is the sum of the two numbers below it.

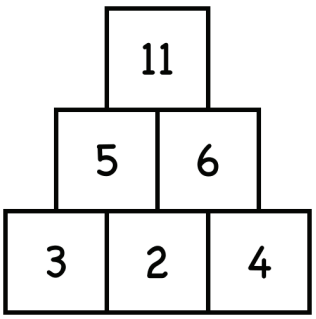
THE CHALLENGE: Use the numbers from 1 to 25, at most once, to make a Sum Pyramid.



♠ 5

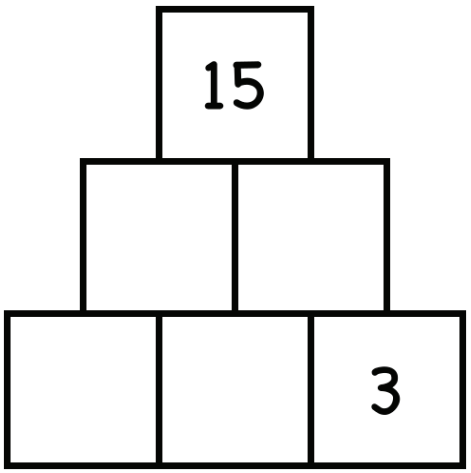
6 ♠

Sum Pyramids 3



In a ***Sum Pyramid,*** each number is the sum of the two numbers below it.

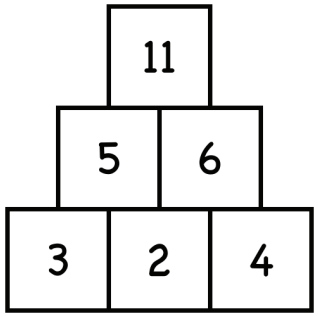
THE CHALLENGE: Use the numbers from 1 to 15, at most once, to complete this Sum Pyramid.



♠ 9

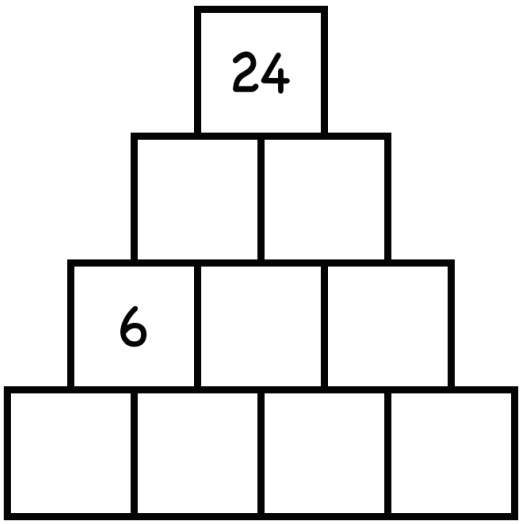
7 ♠

Sum Pyramids 4



In a ***Sum Pyramid,*** each number is the sum of the two numbers below it.

THE CHALLENGE: Use the numbers from 1 to 24, at most once, to complete this Sum Pyramid.

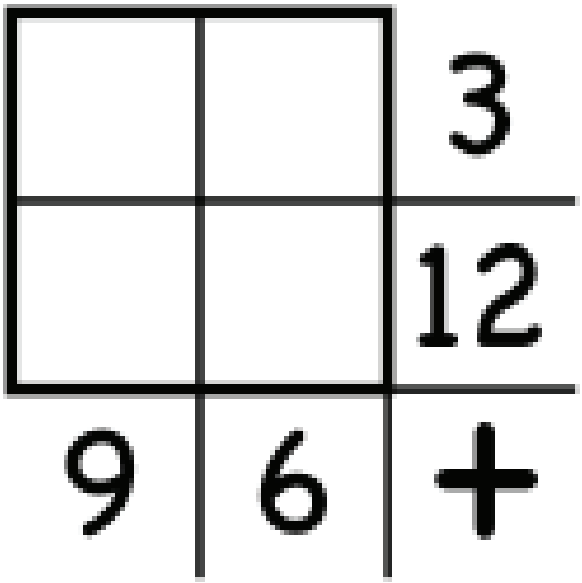


♠ 7

8♠

Square Sums 1

THE CHALLENGE: Fill in the four missing numbers with numbers from 1 to 7 so the rows and columns add up to the numbers on the outside of the 2 by 2 square.



♠8

9 ♠

Treasure Map 1

THE CHALLENGE: When standing on a square, move the given number of squares, and only move to the right, left, up, or down. Find a route from the red Start square to the $$.

Start

1	3	2	1
2	1	2	2
1	2	2	3
1	3	1	$$

♠ 6

10 ♠

Treasure Map 2

THE CHALLENGE: When standing on a square, move the given number of squares, and only move to the right, left, up, or down. Find a route from the red Start square to the $$.

Start

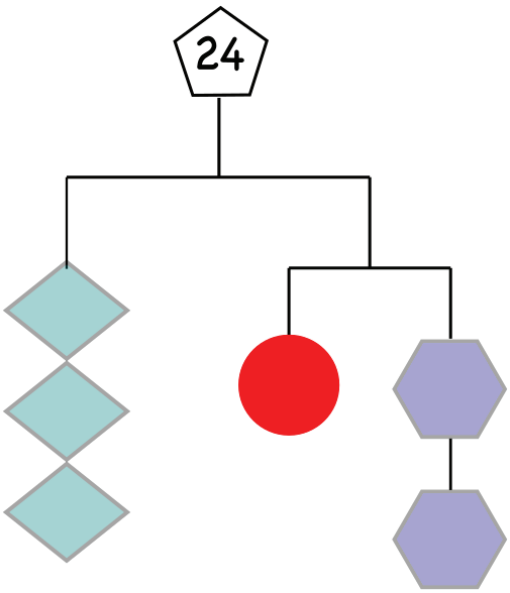
3	1	2	1
2	3	2	3
3	1	2	3
1	3	1	$$

♠ 01

J ♠

Balance Beam 1

The weight is the same on each side of a ***balance beam***. The total weight is given in the top shape. The weight for a given shape is always the same.



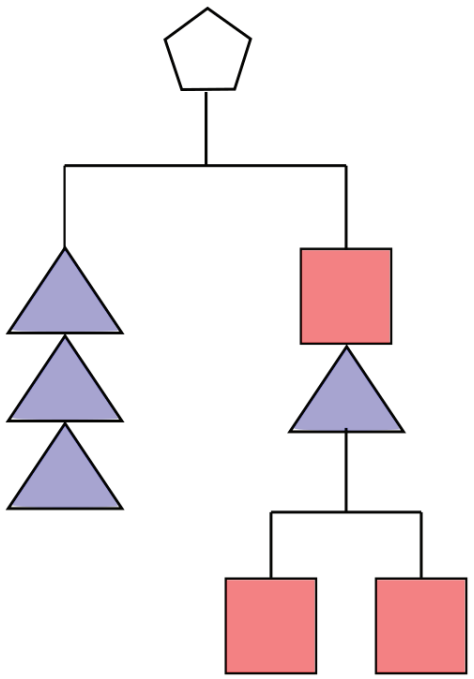
THE CHALLENGE:
Find the weight of each type of shape in this figure.

♠ ɾ

Q ♠

Balance Beam 2

The weight is the same on each side of a ***balance beam***. The total weight is given in the top shape. The weight for a given shape is always the same.



THE CHALLENGE:

If squares each have weight 2, find the weight of each triangle and the total weight.

♠ Q

K ♠

Ladybugs Don't Add Up 1

Ladybugs with numbers land on two leaves. No two ladybugs on a leaf can add up to another on that leaf. The left leaf is OK; the right has 2+4 = 6.

THE CHALLENGE: Starting at 1, how high can you safely go putting ladybugs on two leaves?

♠ K

A

Sum Groups 6

THE CHALLENGE: Break this whole square into groups of two or three numbers that add up to 6. A group's numbers must share sides. Is there only one way to solve this?

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

A

2 ♦

Sum Groups 8

THE CHALLENGE: Break this whole square into groups of two or three numbers that add up to 8. A group's numbers must share sides. Is there only one way to solve this?

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

♦ 2

3 ♦

Sum Groups 10

THE CHALLENGE: Break this whole square into groups of two or three numbers that add up to 10. A group's numbers must share sides. Is there only one way to solve this?

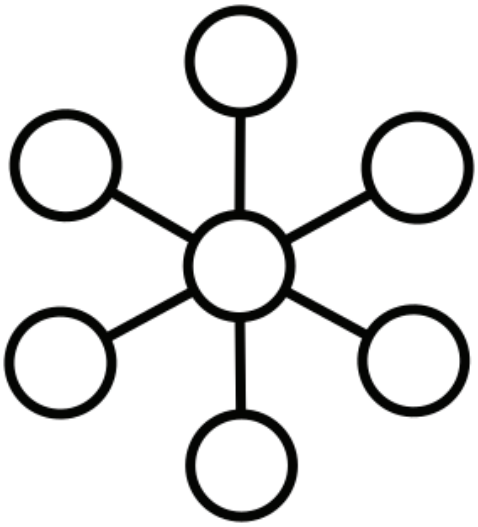
1	5	3	2
4	3	7	4
5	3	5	6
3	4	1	4

♦ 3

4 ♦

Magic Flowers 1

The sums in a ***Magic Flower*** are the same for all straight lines of three circles.



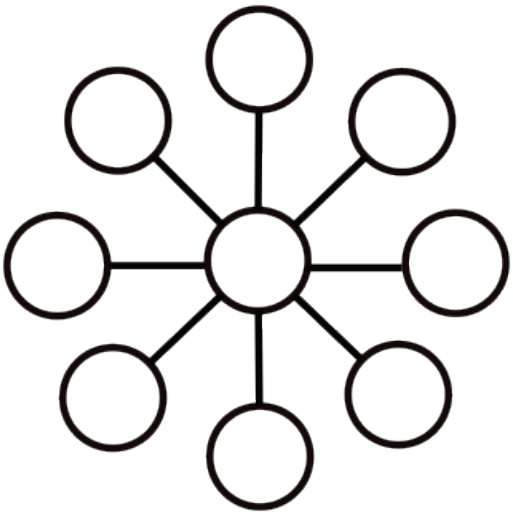
THE CHALLENGE: Use the numbers 1 to 7 to make Magic Flowers using this diagram. Is there more than one way to do it?

♦ 4

5 ♦

Magic Flowers 2

The sums in a ***Magic Flower*** are the same for all straight lines of three circles.



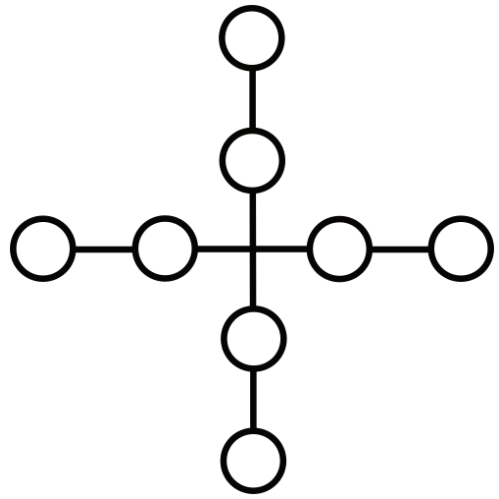
THE CHALLENGE: Use the numbers 1 to 9 to make Magic Flowers using this diagram. Is there more than one way to do it?

♦ 5

6 ♦

Magic Pluses

The sums in a ***Magic Plus*** are the same for all straight lines of four circles.



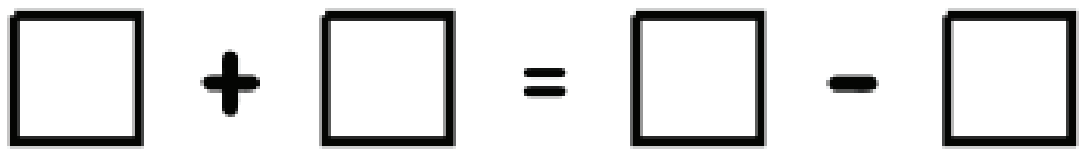
THE CHALLENGE: Use the numbers 1 to 8 to make Magic Pluses using this diagram. Is there more than one way to do it?

♦ 9

7 ♦

Fill in the Blanks 1

THE CHALLENGE: Use the numbers from 1 to 6 at most once to fill in these blanks. How many solutions can you find?



1 2 3 4 5 6

♦ 7

8 ♦

Fill in the Blanks 2

THE CHALLENGE: Use the numbers from 1 to 8 at most once to fill in these blanks. How many solutions can you find?

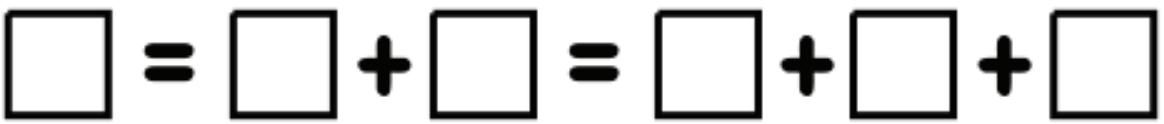
1 2 3 4 5 6 7 8

♦ 8

9 ♦

Fill in the Blanks 3

THE CHALLENGE: Use the numbers from 1 to 9 at most once to fill in these blanks. How many solutions can you find?



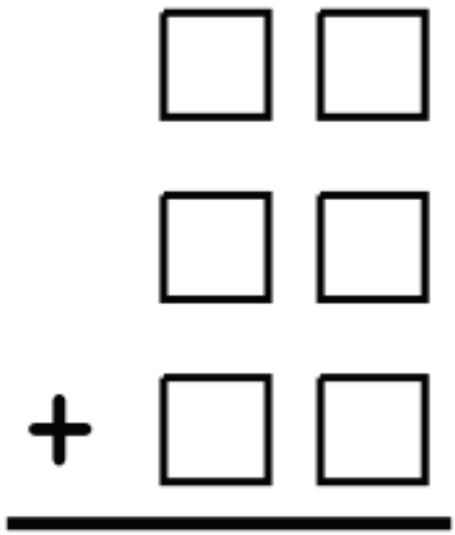
1 2 3 4 5 6 7 8 9

♦ 6

10

Fill in the Blanks 6

THE CHALLENGE: Using the numbers 1 to 6 once each, make this sum as close to 100 as you can.



1 2 3 4 5 6

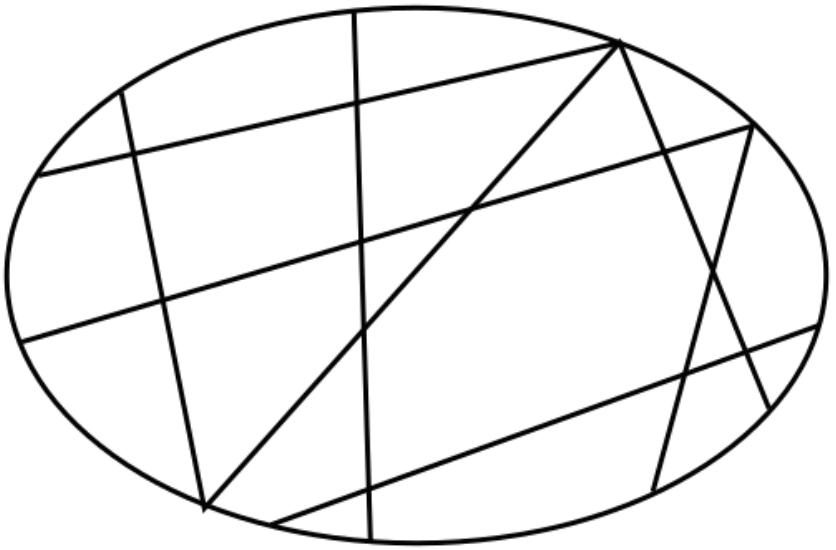
01

J

Map Coloring With 2 Colors 1

Map makers color maps so regions sharing a border use different colors.

THE CHALLENGE: Color this map using just two colors.



J

Q

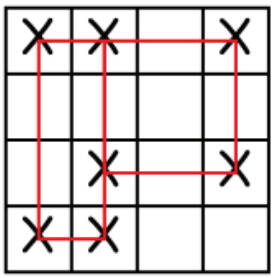
Each of These is not Like the Others

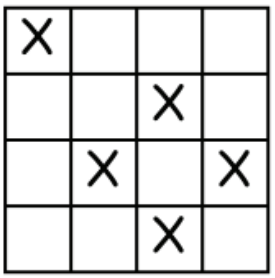
THE CHALLENGE: For each of these four objects, describe a property that the remaining three objects have that it does not.

Q

K

Avoiding Rectangles 1

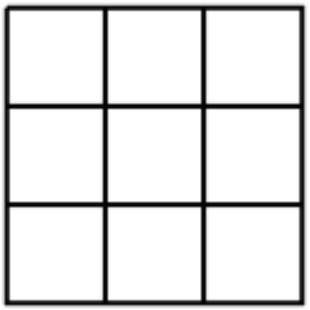




The X's in the left grid form two rectangles. The X's in the right grid avoid forming any rectangles.

THE CHALLENGE:

Place as many X's as you can in this 3 by 3 grid avoiding creating any rectangles.



K

Joker

Why did the two 4's skip lunch? ...
because they already 8.

Why did 2 and 0 break up? ...
because some one came between them.

Joker

Joker

What did 0 say to the 8? ...
nice belt!

Why are obtuse angles so depressed? ...
because they're never right.

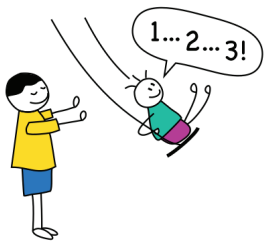
Joker

Grades K-3 Math Puzzles

These puzzles are for grades K to 3, and can be enjoyed by children of all ages. They get harder as the rank increases. Get solutions, notes, card images, and detailed versions of each puzzle at this link.

www.EarlyFamilyMath.org/deck-k-3

Early Family Math



math for love

Card back illustration by Vanessa Conte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