

Latin Square Puzzles

	2	
		3

		1
2		

		1
2		

		1	3
	3		
	2		4

		2	
			1
	2	4	

		1	
	4		
1		3	

		4		
4				
		3		
2	5			
			3	1

5				2
	1			
	3	1		
		4		5

1	5			
			5	3
	4			
		2	3	

Latin Square Symmetry

Complete the Latin squares below to be symmetric. The lines or rotation of symmetry are shown.

A	B		
D	A		
C			

	A		C
A			
B			
			A

A	B		
C	A		
B	D		
D	C		

	C		
A			B
E			
		D	

A				
B	C			
C	A	B		
D	E			
F				

		A		
B	A			C
		B	D	
			E	
		F		E



Are These Squares Matched?

1

3	1	2
1	2	3
2	3	1

2

3	2	1
2	1	3
1	3	2

1 and 2 combined

Matched: Yes or No?

1

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

2

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

3

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

1 and 2 combined

Matched: Yes or No?

1 and 3 combined

Yes or No?

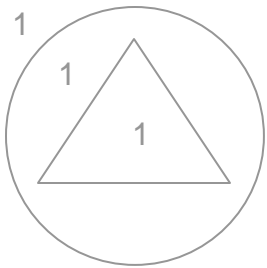
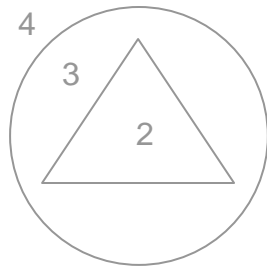
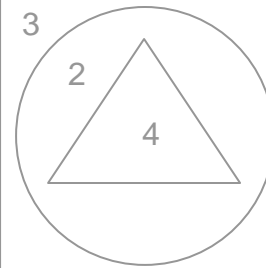
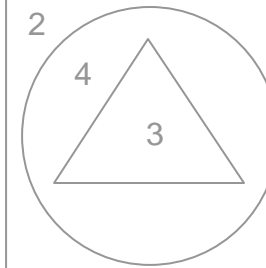
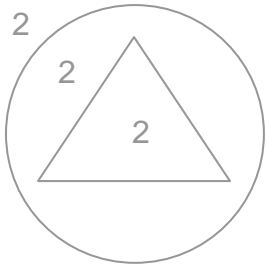
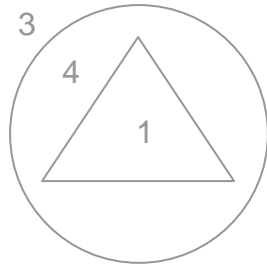
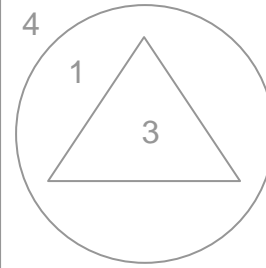
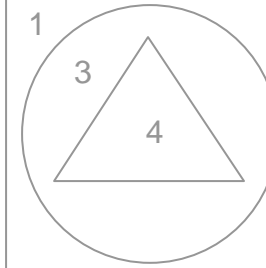
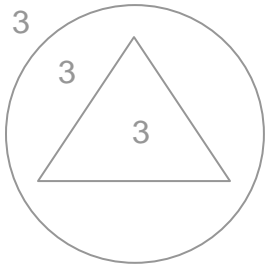
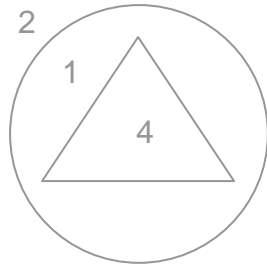
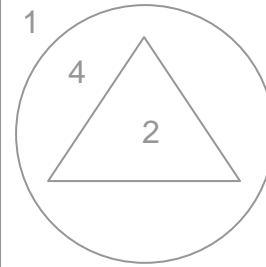
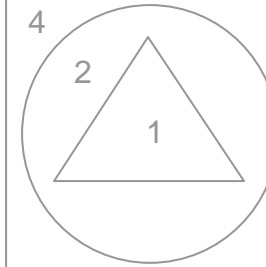
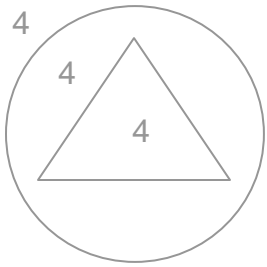
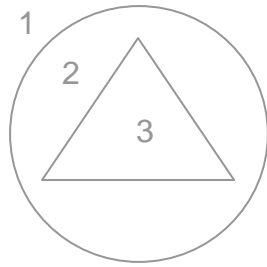
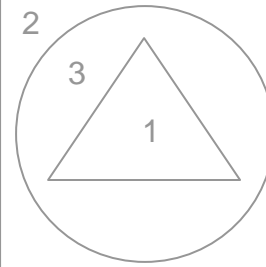
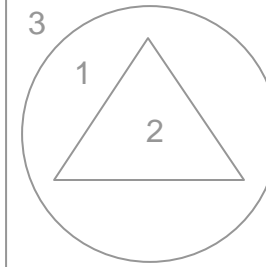
2 and 3 combined

Yes or No?



Latin Square Art

1	
2	
3	
4	

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



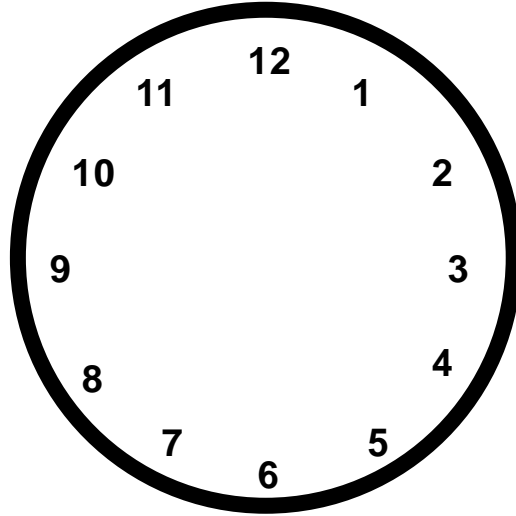
Latin Square Art

1	
2	
3	
4	
5	

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



Clock Arithmetic Worksheet



$6 + 6 \equiv \underline{\hspace{2cm}}$

$7 + 7 \equiv \underline{\hspace{2cm}}$

$8 + 9 \equiv \underline{\hspace{2cm}}$

$5 + 12 \equiv \underline{\hspace{2cm}}$

$12 + 4 \equiv \underline{\hspace{2cm}}$

$3 + 10 \equiv \underline{\hspace{2cm}}$

$8 + 12 \equiv \underline{\hspace{2cm}}$

$3 + 11 \equiv \underline{\hspace{2cm}}$

$10 + 6 \equiv \underline{\hspace{2cm}}$

$9 + 11 \equiv \underline{\hspace{2cm}}$

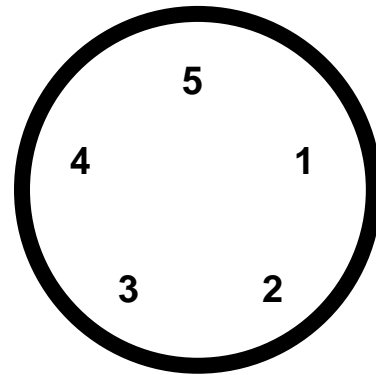
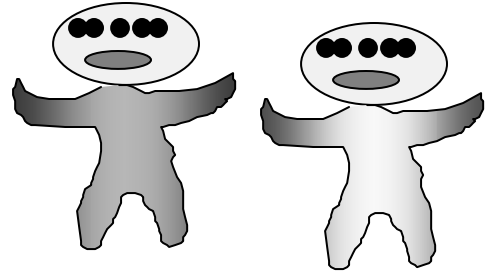
$12 + 7 \equiv \underline{\hspace{2cm}}$

$8 + 10 \equiv \underline{\hspace{2cm}}$



ModFive Addition and Multiplication

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



Do you see a pattern?

Do you see any symmetry?

What number acts like zero?

Can you find the Latin Square?

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

Do you see a pattern?

Do you see any symmetry?

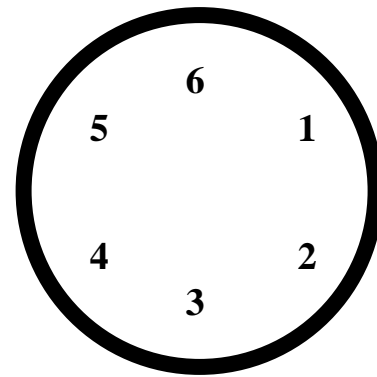
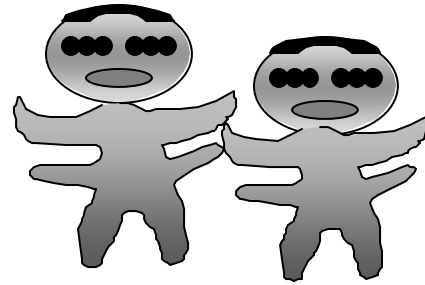
What number acts like zero?

Can you find the Latin Square?



ModSix Clock Arithmetic

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



Do you see a pattern?

Do you see any symmetry?

What number acts like zero?

Can you find the Latin Square?

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

Do you see a pattern?

Do you see any symmetry?

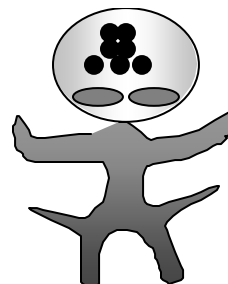
What number acts like zero?

Can you find the Latin Square?



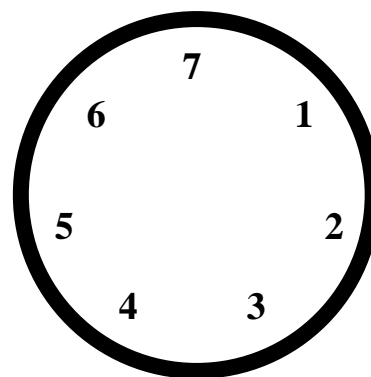
ModSeven Clock Arithmetic

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



Do you see a pattern?
 Do you see any symmetry?
 What number acts like zero?
 Can you find the Latin Square?

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



Do you see a pattern?
 Do you see any symmetry?
 What number acts like zero?
 Can you find the Latin Square?

