

Binary numbers

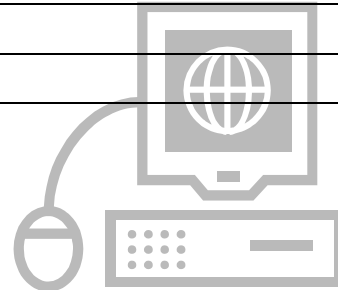
Math Circle

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Let's make the magic squares for the numbers from 1 to 15.

The first step is to convert numbers from 1 to 15 to binary numbers

In Decimal	8	4	2	1	In () ₂ notation
1	-	-	-	1	(1) ₂
2			1	0	
3			1	1	
4		1	0	0	
5					
6					
7					
8					
9					
10	1	0	1	0	
11					
12					
13					
14					
15					



8		4	

2		1	



Let's make the magic squares for the numbers from 1 to 31. We already have converted the

numbers from 1 to 15 so we only have to convert the rest.

In Decimal	16	8	4	2	1
16	1	0	0	0	0
17					
18					
19					
20					
21					
22					
23	1	0	1	1	1
24					
25					
26					
27					
28					
29					
30					
31					



When you fill out the boxes, remember that you already know where the numbers from 1 to 15

belong from the previous boxes.

16		

8		

4		

2		

1		

