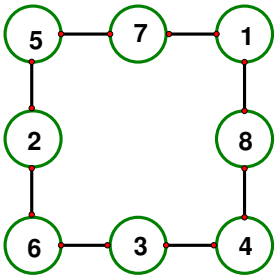
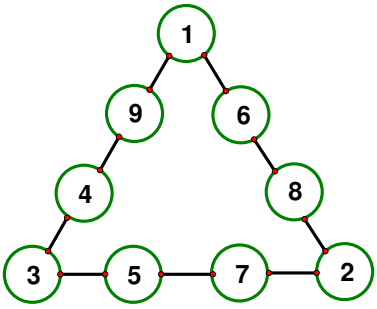
Name: Date:

The solutions presented are only one of many. Any correct solution will be accepted.

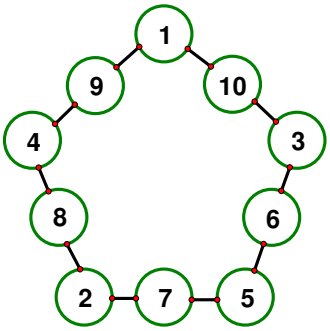
The general method for these is to find the Magic Number (which is given), which tells you what the numbers on each side must add up to. Then you start with positioning the smallest numbers. Usually the smallest numbers go in the corners. Then you place the rest of the numbers on the sides so that they add up correctly.

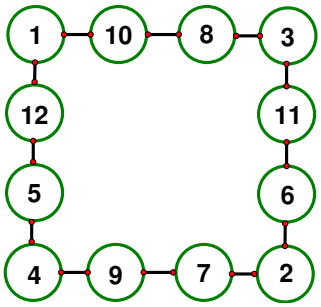
1 and 2





3 and 4

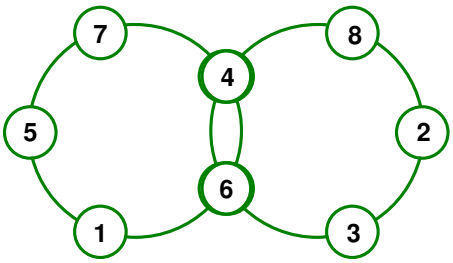


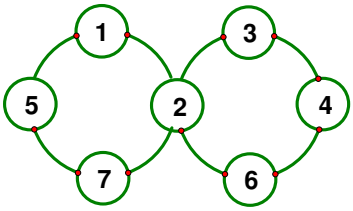


For the circle problems, first list out the numbers and figure out what numbers need to go on the sides. Each of the side numbers need to add up to be the same. For instance, for problem five, we can make 13 in two ways, $1 + 5 + 7$, and $2 + 3 + 8$. So we will put those on the sides of the circles, and the left over numbers 4 and 6 in the middle.

5 and 6

Name: Date:





In Magic Squares, the sums of each column and each row must add up to be the same. So first we find out what the Magic Sum is by adding up the given column or row. For instance, for problem 7, we see that the Magic Sum $= 4+3+8 = 15$. Now continue filling in numbers until we can determine X. On the top row, we see that we already have 4 and 2, and the row must add up to 15, so the missing number is 9. Now we have digits 1, 5, 6, and 7 left to use. The two numbers in Row 2 must add up to 21, and the two numbers in Row 3 must add up to 7. The two numbers in Column 2 have to add up to 6, and the two numbers in Column 3 must add up to 13. After a little trial and error, we find the correct configuration of the numbers, and $X = 6$. For problem 8, we notice that the numbers are all odd. The Magic Sum $= 11+9+19 = 39$. In Column 1, we already have 7 and 11, so the missing number is $39-7-11 = 21$. Then we see that Row 2 has two numbers 21 and 5, and the missing number must be $39-21-5 = 13$.

4	9	2
3	5	7
8	1	X=6

7	17	15
21	13	5
11	9	19