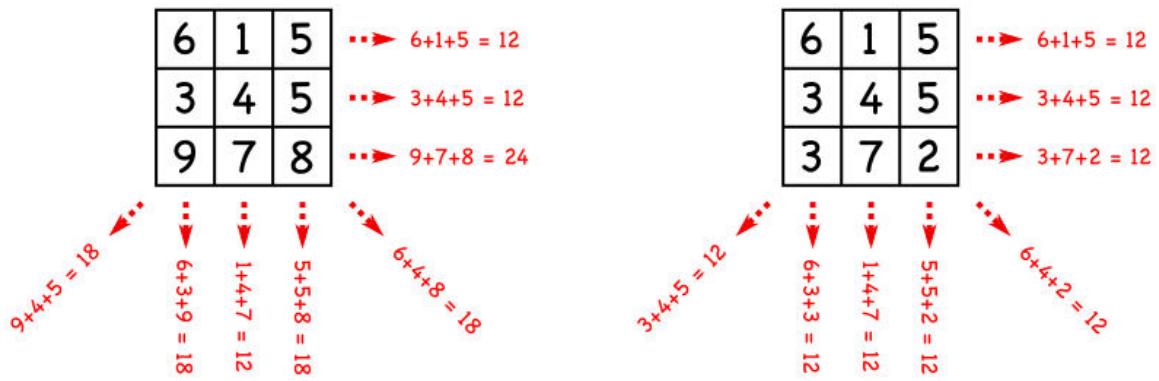


Puzzle of the Week

Magic Squares – 2

In a *Magic Square*, all the rows, columns and diagonals add up to the same number. This first square is not a Magic Square. The second one is a Magic Square with a constant sum of 12.



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

	9	
	5	3
6		

1 2 4 7 8

Puzzle of the Week

Magic Squares – 2 – Notes

THE CHALLENGE: This is meant to be an intermediate warmup puzzle for Magic Squares, so it doesn't require much careful analysis. This, like many of these Puzzles of the Week, can be attacked by playing around with the numbers until a solution is found. Don't be tempted to think that a more structured approach is better for your students – a great deal will be learned about the mathematics involved and about problem solving by tenaciously working through many examples. Finding a solution, by any method, is always a wonderful reward.

The simplest way to start analyzing this puzzle is to find the common sum. Each row adds up to the common sum. Also, the three rows contain the numbers from 1 to 9 and add up to three times the common sum. Therefore, three times the common sum is 45 (the sum of 1 to 9), so the common sum is 15.

After that, start with the lines that already have two numbers and fill in the missing numbers to make them all add up to 15.

The final solution (by rows) is: (2 9 4) (7 5 3) (6 1 8).

2	9	4
7	5	3
6	1	8