Closest to 100[28]

You need a set of digit cards from 1 to 7. Arrange your cards with + signs in between them. Use each card once. How close can you get to 100? Here is an example:

$$52+13+46+7 = 118.$$

Can you get closer to 100?

Magic Square Gone Wrong[29]

23	10	17	4	11
6	18	5	12	24
19	1	13	25	7
2	16	21	8	20
15	22	9	16	3

This is a magic square. The numbers in any row, column or the two diagonals have the same total. Unfortunately, there is something wrong. One of the numbers is incorrect. Which number is it? What should it be? (The number 16 towards the bottom left corner should in fact be 14)
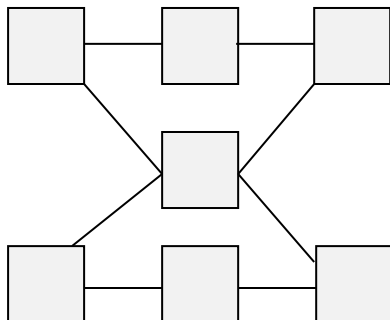
Digit Card Game[30]

Use digit cards 1, 2,3,4,5,6,7,8. Put these eight cards in three groups. There must be at least one card in each group. In each group, the sum of the numbers of the cards must be the same. Find three different ways to do it. (The eight cards have a total of 36, so the total in each group must be 12. The three ways are: 8,4 7,5 6,3,2,1   8,3,1 7,5 6,4,2   8,4 7,3,2 6,5,1

Number Tree[31]

You need seven number cards 1,2,3,4,5,6,7. Arrange the cards on this grid. Each line of three numbers must add up to 12.

Can you find two other ways to do it? (Put 4 in the centre and the rest fall into place)

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[28] Crown (2010) *Teaching Children to Calculate Mentally.*p.48
[29] Crown (2010) *Teaching Children to Calculate Mentally.*p.49

[30] Crown (2010) *Teaching Children to Calculate Mentally.*p.49
[31] Crown (2010) *Teaching Children to Calculate Mentally.*p.50