

## Dominoes Sets

As part of the Year 3 and Year 4 Mathematics Extension Program (MEP) at Lumen Christi Primary School, students had the opportunity to work on the Dominoes Sets problem.

To make the problem extra challenging we discovered that one of the other classes had mixed up all of the dominoes in the Mathematics Resource room.

We had 6 containers. Some were nearly empty and some were totally full.

Our first challenge was to try and work out how many dominoes were in a standard set.

We did this by sorting the dominoes.

This helped us work out how many dominoes we needed and how many dominoes were missing from each set.

Aidan and Jade made a set of 49 dominoes.

We soon realised that this amount would not fit back into the container. From this we worked out that maybe a standard set only needed one of each domino – no repeats allowed.

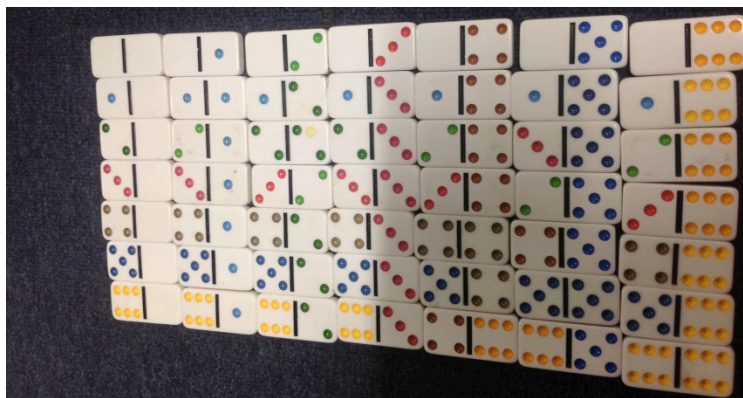
Lachlan, Alex and Anthony were the first group to find the solution. They noticed that you only needed 7 of the zero dominoes. After that each set would need to have one domino less.



A standard set of dominoes has 28 dominoes.

$$7 + 6 + 5 + 4 + 3 + 2 + 1 = 28$$

Using this information we think that a set of 0 – 9 dominoes would have 55 dominoes.



$$10 + 9 + 8 + 7 + 6 + 5 + 4 + 3 + 2 + 1 = 55$$

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Callie.F and Muna.C

School: Brewers Hill Middle School

Country: England

Age: 11

Date: 2013-06-06 11:44:12

Solution:

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Our solutions for the domino games are: Full set:28 you would figure out that there is 28 dominos and each number is on a domino by working out that the number is on a domino with:6, 5, 4, 3, 2, 1, 0. you may think the number that is mainly on the domino will not be included in the list but it is because of the double number dominos Set from 0-9:55

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Charlie, Conner, Teddy, Issabell, Arun, Sarah, and

School: Paton School Shrewbury Massachusetts

Country: United States of America

Age: 9

Date: 2013-06-07 19:03:33

Solution:

[Delete this solution](#)

We had a box of dominoes and we put all the twelves on the bottom then the 11's on top of them and then the tens and so on. We noticed that each domino had two numbers so we put it in the row of the bigger number. As the numbers got smaller the rows got smaller too. Because if it was a smaller number it was paired with bigger numbers. We noticed that there are 13 dominoes for each of the numbers because they had zero.

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Zak

School: Stocking ford primery school

Country: Britain

Age: 11

Date: 2013-06-10 09:37:56

Solution:

[Delete this solution](#)

From 0 you have 7 diffearent combonations,00,01,02,03,04,05,06 then you go on to the 1's. execept you have to eliminate one 01 seing as you've already done that one so you only have 5 diffearent combonations 11,12,13,14,15,16 keep following that method and you will eventually meet the end 1 domino with both sides sixes. count up the dominos and thats your total.

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Aaron

School: Stockingford Primary School

Country: England

Age: 11

Date: 2013-06-10 09:45:10

Solution:

[Delete this solution](#)

I worked it out by putting all the zeros first like 0-0, 0-1 and so on , then putting the ones next: 1-1, 1-2 and so on, I did that until I got all of them put together. But I had to remember that there is only one 0-0, 0-1, 0-2 and till you get to 0-6, but you can switch the numbers round. There was 28 dominos all together.

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Ellen

School: Pigeon Mountain Primary

Country: New Zealand

Age: 9

Date: 2013-06-20 06:10:05

Solution:

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Every normal domino is divided in half. So there are two sides that you use. Then, on each side, there can be any number up to six. So you times 2 with 6.

Two sets of 6.  $2 \times 6 = 12$ . There are 12 dominoes in a normal set.

If your set of dominoes is up to nine, you do almost the same thing. 2 sides you can use times any number up to 9 on each side.  $2 \times 9 = 18$ . Get the pattern?

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