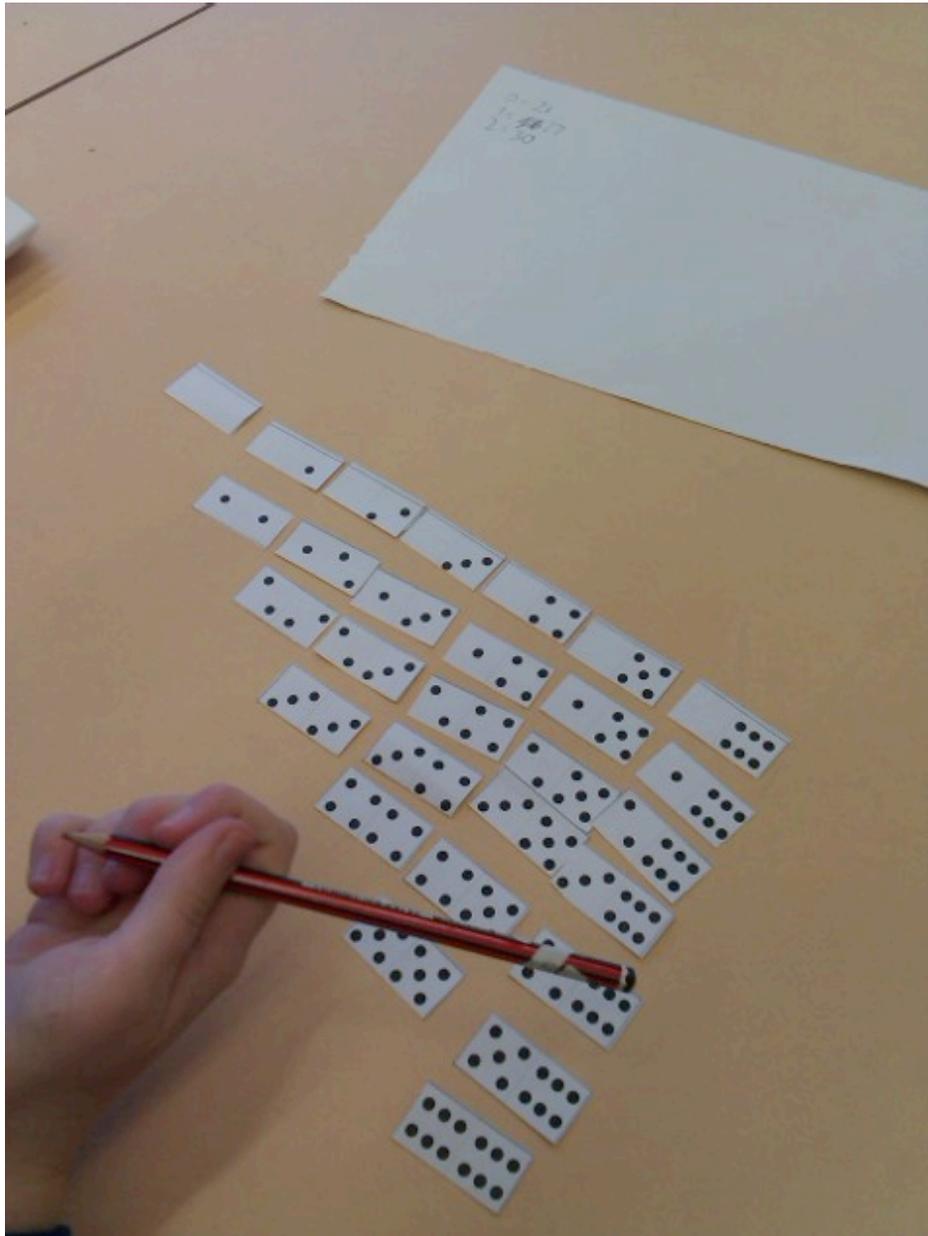


### Lyneham Primary Year 5/6 Math Challenge Group

Each group used a complete set of paper dominoes to learn about the system of numbers on the dominoes (barely any students had played dominoes, except for making a trail of dominoes fall down). It didn't take them long to lay it out as on the photo below.

Individual group solutions on the next couple of pages.

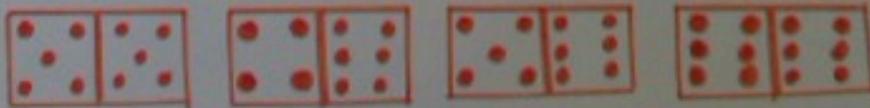


Jay-Jay, Sally, Jeffrey

# Amy's Dominoes

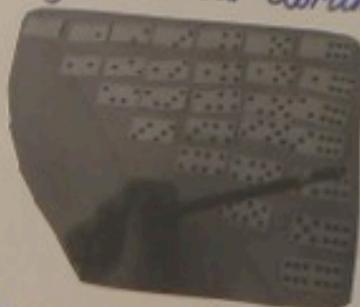
Q. We were told that Amy had 24 dominoes and 125 spots. She knows this isn't a full set so <sup>she wanted to know which were</sup> ~~how~~ dominoes ~~are~~ missing?

A. First we found out how many dominoes were in a full set of double-six dominoes.  There were 28 of them and 168 spots. This meant that four dominoes were missing and 43 dots were also missing. We decided to use the <sup>fewest</sup> dominoes with the largest amount of dots, because we figured that any other combinations would not equal 43 dots. It turned out that the set of dominoes and dots we chose were correct. The missing dominoes were:



We had to work out which dominoes were missing from the information we were given: there were 24 dominoes with 125 spots.

We found that in a full set there are 28 dominoes and 168 spots. We found this setting out our dominoes like this:



This meant there were 4 dominoes and 45 spots missing. By trial and error we found that this combination would work:  $\begin{array}{|c|c|} \hline \cdot & \cdot \\ \hline \cdot & \cdot \\ \hline \end{array} + \begin{array}{|c|c|} \hline \cdot & \cdot \\ \hline \cdot & \cdot \\ \hline \end{array} + \begin{array}{|c|c|} \hline \cdot & \cdot \\ \hline \cdot & \cdot \\ \hline \end{array} + \begin{array}{|c|c|} \hline \cdot & \cdot \\ \hline \cdot & \cdot \\ \hline \end{array}$

To make another combination you would have to use more dominoes as these have the highest number of dots.

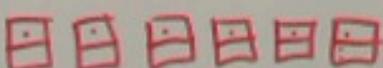
Therefore this is the only possible combination.  $\begin{array}{|c|c|} \hline \cdot & \cdot \\ \hline \cdot & \cdot \\ \hline \end{array} + \begin{array}{|c|c|} \hline \cdot & \cdot \\ \hline \cdot & \cdot \\ \hline \end{array} + \begin{array}{|c|c|} \hline \cdot & \cdot \\ \hline \cdot & \cdot \\ \hline \end{array} + \begin{array}{|c|c|} \hline \cdot & \cdot \\ \hline \cdot & \cdot \\ \hline \end{array}$

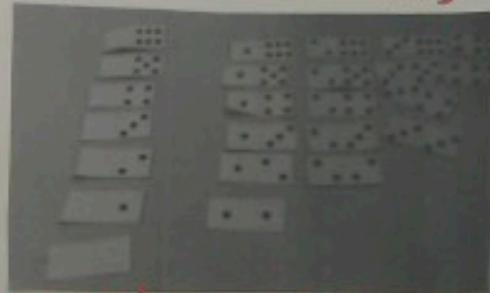
By Freya + Brendan

Morgan & Jimmy

Step 1.

We put the dominoes in order using ~~the~~ 1 set of numbers on each dominoes

e.g. 



Step 2

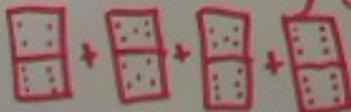
We then added up the dots in each row of dominoes. Added them all together to find 168.

Amy's set had 125 spots so she was missing 43 spots. She had 24 dominoes and a full set has 28 dominoes

so she's missing 4 dominoes that together equal 43 spots

Step 3

We needed to find 4 dominoes that together equalled 43 (each needs more than ten). We then took the four largest <sup>dominoes</sup> and they equalled 43.

 +  +  +  = 43 spots

Khubaib

## Dominoes

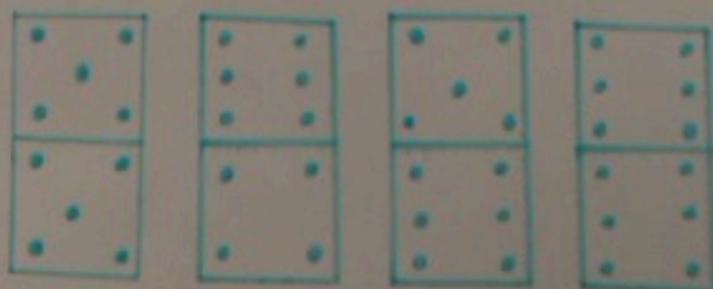
Jerry

First we figured out how many dominoes there are in a set. We found out there are 28.

Then we counted up the spots on all the dominoes. The sum of all the dots were 168.

Since we needed 125, we found out what the difference between 168 and 125 was. The answer to this was 43.

We needed the spots of 4 dominoes that added up to 43. The four dominoes are drawn below:

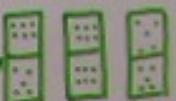


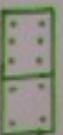
# Dominos

By Tekla & Cate

We started off by grouping the dominos that had dots that added up to ten. We then divided the remaining dominos into even groups of easier numbers to count. Our total number of dots when added together came to 168. We know that Amy had 125 spots on her 24 dominos. So we decided to take one hundred and twenty-five of one hundred and sixty-eight to find out how many dots Amy was missing. This came to a total of 43.

Because a full set of dominos is 28 and Amy had 24, we know she was missing 4 dominos which needed a total of 43.

We decided to use the dominos with the highest total of dots. These dominos were  and came to a total of 33. We then realised that we needed  10 more dots to get 43.

So we came up with the idea of using the domino  which of course equals 10.

So all in all ~~the~~ Amy was missing 4 dominos that had a total of 43 and these were the dominos she was missing.

