

## A game about subtraction

MYP 1-2

### Instructions

- Solve the following subtractions.
 
$$381 - 183 = 198$$

$$632 - 236 = 396$$

$$732 - 237 = 495$$
- Explore the operations and answers.
- Explain your findings using words and a general rule.
- Justify that your general rule works for any case.
- Write instructions to explain to your parents how to use your finding as a game. Use mathematical terminology and remember to write a logical, concise and complete explanation.

I notice.....

- Middle digit is always equals to 9.
- First digit adding the third digit always equal to 9.
- The sum of all 3 digits adding up is equal
- The first digit of the first group of number minus the first digit of the second group of number

Rule 4 =  $ABC - CBA = \square 9 \square$

$A - C - 1 \rightarrow$  (points to first digit)  
 $\uparrow$  (points to middle digit)  
 $9 - (A - C - 1) \leftarrow$  (points to third digit)

Always 9

Another example =

Example  $581 - 185 = 396$

(Other case)

$5 - 1 - 1 \rightarrow$  (points to first digit)  
 $\uparrow$  (points to middle digit)  
 $9 - 3 \leftarrow$  (points to third digit)

\* The first digit  $\rightarrow$  If you minus  $\color{blue}{\bullet}$  and  $\color{green}{\bullet}$  and 1

\* Middle digit  $\rightarrow$  Always 9

\* The third digit  $\rightarrow$  If you minus  $\color{orange}{\bullet}$  and  $\color{purple}{\bullet}$

Therefore, my rule works!