

Katherine and Charmaine's working out- All the Digits

We know that the first digit of the four digit number cannot be 1,2 or 3, because if 3 was multiplied by these numbers, it would not give a two digit number. Also, three is already used.

Next we know that the three consecutive numbers in the four digit number must be 4,5 and 6, because if we add the two smallest numbers, it will give nine, allowing us to fulfil the rule of having two of the consecutive numbers added up to become the third digit of the four digit number. The next possibility of consecutive numbers would be 5,6 and 7, however, the two smallest numbers would add up to 11, which is a two digit number, therefore it would not work as the third digit of the four digit number. So the three consecutive numbers are 4,5,6 in the four digit number.

This concludes that 9 is the third digit of the four digit number.

After that, we can eliminate 5 from the last digit of the four digit number as 5 multiplied by 3 is 15, and we will use the number 5 twice. Thus, 5 is placed in either the first or second digit of the four digit number.

By knowing that 4,5 and 6 and 9 are for the four digit number, the remaining numbers are 0,1,2,7,8. To figure out the product of this equation, we will use the facts stated on the website. That is that the first, third, and fifth are three consecutive numbers, and the second and fourth digits are also consecutive numbers. This allows us to find out that the first, third and fifth digit is 0,1,2 (in any order) and the second and fourth digits are seven and eight (in any order). Now we do trial and error with the information found out by us above.

Trial and Error:

5496

x 3

16488

WRONG!

4596

x 3

13788

WRONG!

5694

x 3

17082

CORRECT!