

All the digits  
Cynthia and Anna

Our working out

The consecutive numbers  
can only be 0,1,2 or 4,5,6

4th no. 3 or 4  
or 2, so 0,1,2  
is impossible

1st number  
includes 4,5,6 & 9

6x3=18 ✓  
4x3=12 ✓  
5x3=15 ✗  
9x3=27 ✓

$\begin{array}{r} 9546 \\ \times \quad 3 \\ \hline 28638 \end{array}$	$\begin{array}{r} 9456 \\ \times \quad 3 \\ \hline 28368 \end{array}$	$\begin{array}{r} 6954 \\ \times \quad 3 \\ \hline 20862 \end{array}$
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all of the trials  
are wrong as  
9 has to  
be 3rd.

We eliminate  
5 as the last  
digit because  
3x5=15, then  
the number 3  
will appear twice,  
which is against the  
rules.

consecutive  
5 6 9 4  
sum of 5,4  
3 ← right

consecutive  
1 7 0 8 2

### Explanation

We figured out that the only consecutive numbers without 3 and have 2 digits that add up to a number between 0 & 9 are 0,1,2 or/and 4,5,6. But the sums of any 2 digits in 0,1,2 are 1,2 or 3, which makes the consecutive numbers 0,1,2 impossible. This means, that the

4 digit number definitely includes a 4, a 5, a 6 and a 9 (because 4+5=9, 4+6=10, and 5+6=11, there has to be a 9, as 10 and 11 aren't between 0 & 9). Now, because

3x6=18, and 18 ends in 8 and 8 hasn't been used, the digit 6 can be last in the 4 digit number, the same goes for the digits 4 and 9. But, 9 has to be the 3rd digit because it's the sum of 4,5, which were the first consecutive numbers (4,5,6). After using

Trial and Error, we deduced, the answer was 5694x3=17082.