# Long Multiplication

### What is long multiplication?

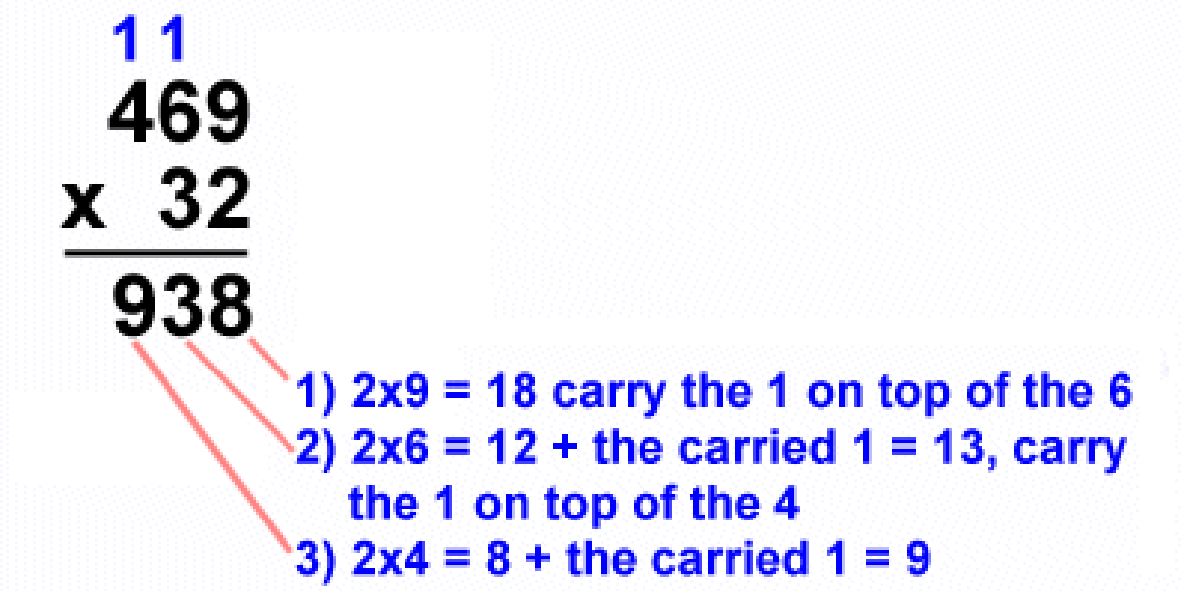
Long multiplication is a method used to solve multiplication problems with large numbers. One thing that can really help you in long multiplication is if you know the multiplication table by heart. This will speed up your work and make it more accurate.

### First Step

The first step in long multiplication is to write down the numbers on top of each other. You align the numbers on the right. Don't worry about the decimal points when lining up the numbers; just write them down and line up the right-most number.

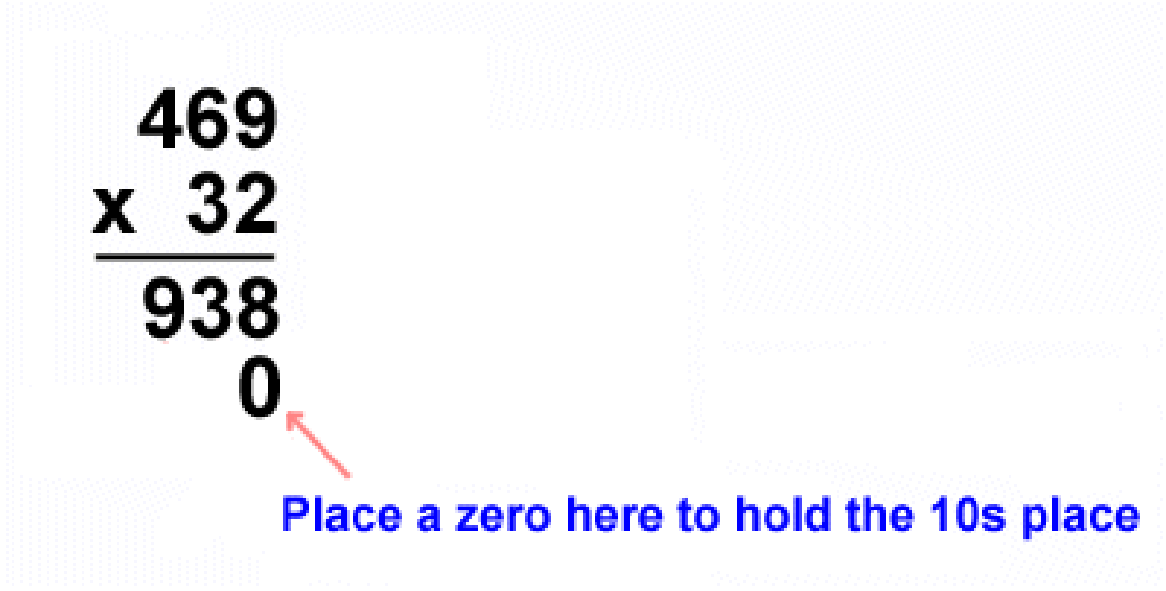
Example:

**469 x 32 =**



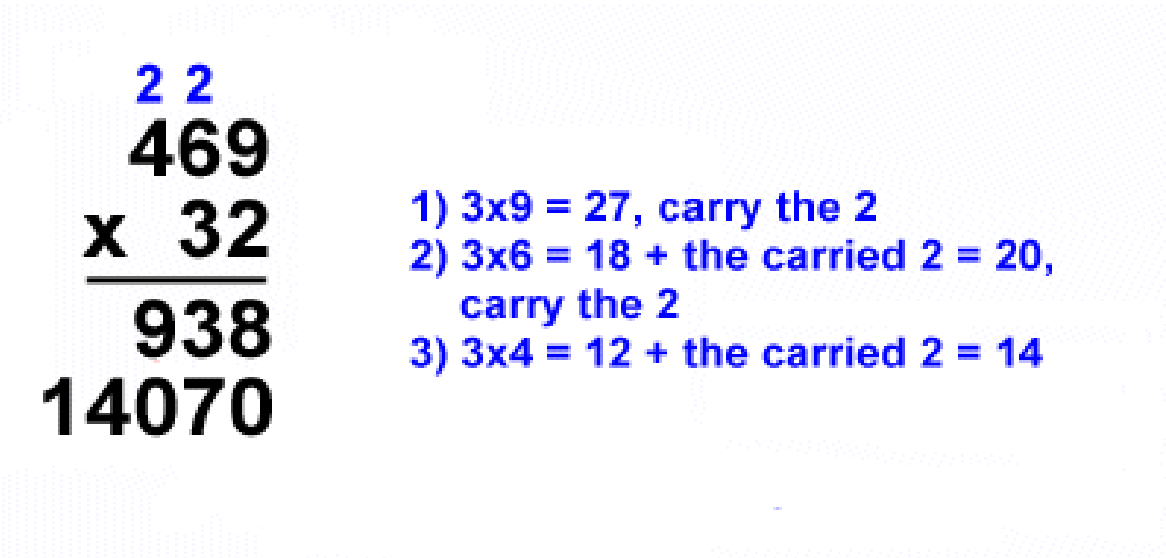
## Adding a Zero for the Tens Space

Now we need to multiply by the next number to the left of the 2. This is the 3 in 32. Because the 3 is in the tens place, we need to hold the tens place by placing a zero in the 1's place before we start multiplying.




## Finish multiplying

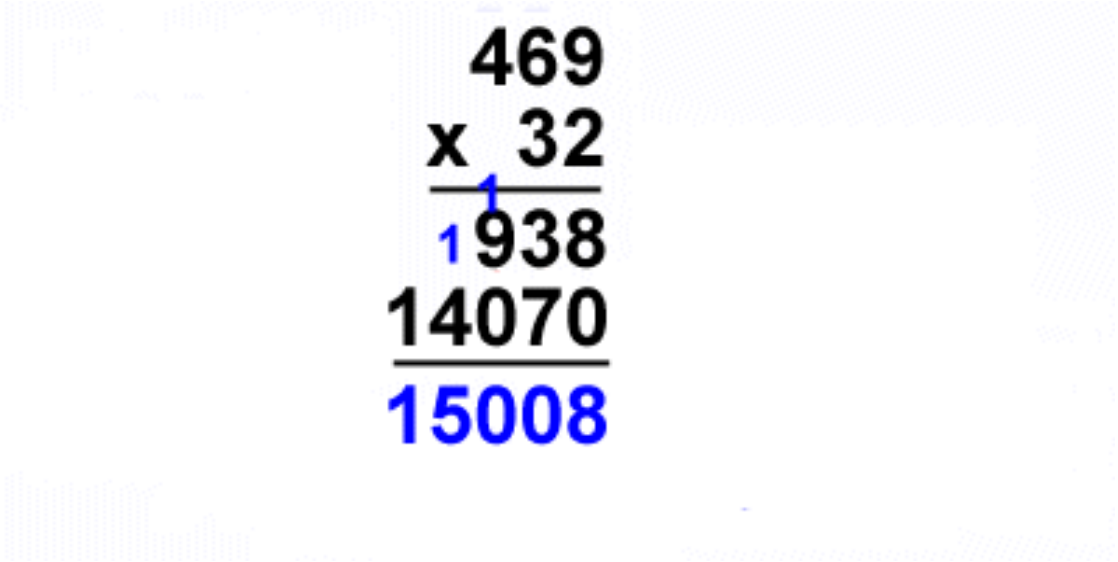
Multiply the 3 by the top number (469) and write this number next to the zero.




If there were more numbers, we would add more rows and continue to add more zeros. For example, if there were a 4 in the hundreds spot (i.e. the number on the bottom was 432) we would add two zeros in the next row and then multiply 469 by 4.

**Third Step**

After we have multiplied all the numbers on the bottom, we add up the rows of numbers to get the answer. In this case there are two rows, but there would be more if the number we were multiplying by on the bottom (the 32) had more digits.




# AND THAT'S IT

# SIMPLES