# YouTube Transcript - P87CA4rI\_\_w

[Music] welcome to math with mr j [Music] in this video i'm going to cover how to multiply three digit numbers by three digit numbers so let's get into our two examples here and find the product of each and when i say product that means the answer to a multiplication problem so for number one we have 819 times 237 so the first thing we need to do is line this problem up so we have 819 times 237 make sure you line up all your places so the nine and seven are lined up because they are in the ones place the one and three because they are in the tens and then the eight and 2 because they are in the hundreds now we're ready to multiply so what we're going to do we're going to do 7 times 819 30 times 819 and then 200 times 819 add all of those up and that will give us our final answer and i said 30 because that 3 in 237 is in the tens place so it has a value of 30. and i said 200 because that 2 in 237 has a value of 200 because it's in the hundreds place so let's start and we start by doing 7 times 9 which is 63 so we put our 3 and carry the 6. now we have 7 times 10 but we can just think of it as 7 times 1 and look at these as the basic digits now i said 10 because that 1 is in the tens place so it has a value of 10. but let's just think of it as the digits themselves like i said so seven times one is seven plus six is thirteen so we put our three and carry the one now we have seven times eight hundred but we can just think of it as seven times eight which is 56 plus that one is 57 so we put our seven and we don't have any more digits to carry over to so we drop our five and we get an answer of five thousand seven hundred thirty three we are done with the seven here the six and the one i like to cross things off as we go uh when we are done with them that way we don't get confused with any other numbers that are carried later in the problem so now we move to the 30 that has a value of or i'm sorry we move to the 3 that has a value of 30. so we put a 0 here for our next step and that represents that 30. it helps us represent the 30 rather than just saying it is a 3. so now we do 3 times 9 which is 27 carry our 2. 3 times one is three plus two is five and then three times eight is twenty-four so we are done with this three and then the two so we moved the two in 237 which has a value of 200 it's in the hundreds place so we need two zeros for this next number again that's to represent the 200 so now we do 2 times nine is eighteen carry the one two times one is two plus that one is three and then we have two times eight which is sixteen so now we can add all of these up these are our partial products so they are part of our final product or answer there add them up and we get our final answer so three plus uh a couple of zeros there is three three plus seven is ten carry our one one plus seven is eight plus five is thirteen plus eight is twenty one two plus five is seven plus four is eleven plus three is fourteen one plus two is three plus six is nine and then we end with a one here and we get a final answer of one hundred ninety four thousand one hundred three so on to number two and we can line up our problem 338 times 193 so let's go through our steps and we will go a little quicker as we work through number two three times eight is twenty-four three times three is nine plus two is eleven 3 times 3 is 9 plus 1 is 10 so we are done done and done we move to the 9 which has a value of 90 so we need a 0 here nine times eight is seventy-two nine times three is twenty-seven plus seven is thirty-four nine times three is twenty-seven plus 3 is 30. so we are done here done here and done here now we have 100 times 338 so that 1 has a value of 100 so we need two zeros now one times eight is eight one times three is three and one times three is three so we have our three partial products and we are ready to add them up in order to get our final answer so four plus zero plus zero is four one plus two plus zero is three zero plus four is four plus eight is twelve one plus one is two plus three is five and then we end with three plus three which is six so we get sixty five thousand two hundred thirty four so there you have it there's how you multiply three digit numbers by three digit numbers i hope that helped thanks so much for watching until next time peace