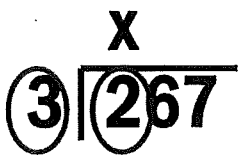
DIVISION (STEP-BY-STEP)

This is a step-by-step guide to long division.
Recommended grade level: 4-6

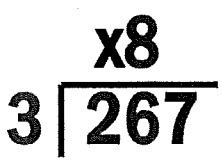
This will teach you how to solve division problems. There are step-by-step instructions that are clear and easy to follow. There is also a sample problem that is shown being solved one step at a time. There is an order of operations that is extremely important to follow when dividing. It is also important to keep all numbers lined up in straight columns, just like when we are adding or subtracting large numbers.

Divide

2 divided by 3 = not possible

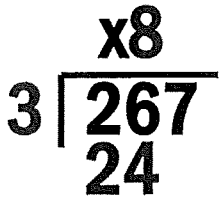


1. The first step is to look at the number inside the division sign (the dividend, 267) and focus on the place value farthest to the left, which is the 2, in this case. Ask, "Does 3 (the divisor) divide into 2, and if so, how many times does it go into it without going over it?" In this case, 3 does NOT divide into 2, so we place an "x" above the 2.



26 divided by 3 = 8
(without going over 26)

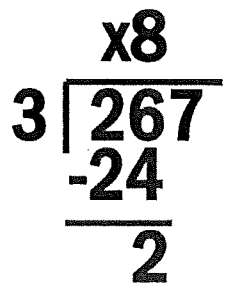
2. Next, we look at the number inside the division sign (the dividend, 267) and focus on the two place values farthest to the left, which is the 2 and the 6, in this case. Ask yourself, "Does 3 (the divisor) divide into 26, and if so, how many times does it go into it without going over it?" In this case, 3 divides in to 26 eight times without going over 26, so we place an "8" above the 6.



Multiply

8 x 3 = 24

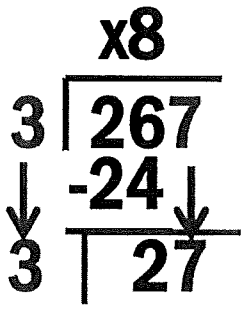
3. Take the division answer you just got (8), called a quotient, and multiply it with the divisor (3). Place that answer below the 26.



Subtract

(*26 - 24 = 2*)

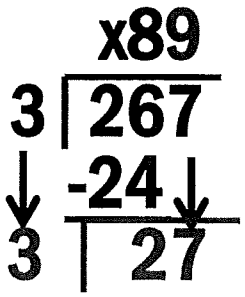
4. Subtract your multiplication answer (product, 24) from the number you divided into (26).



Bring Down

(*Bring down the 7 and the 3.*
Make a division sign.)

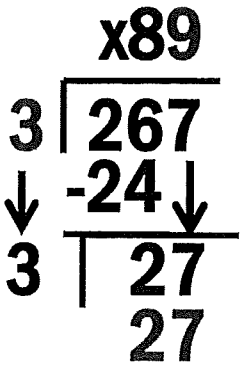
5. Bring down only one number from the next place value over in the dividend (7). Also, bring down the divisor at the same time (3). Then make a divison sign to "Prepare for division!" again.



Divide

(*27 divided by 3 = 9*
(without going over 27))

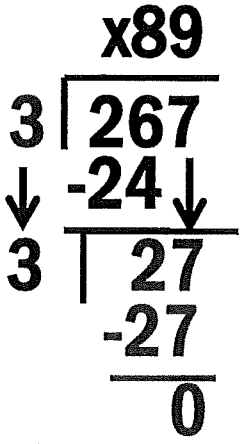
6. Look at the number inside the division sign we just made (27) and ask yourself, "How many times does 3 (the divisor) divide into 27 without going over it?" In this case, 3 divides in to 27 nine times without going over 27, so we place a "9" above the 7.



Multiply

(*9 x 3 = 27*)

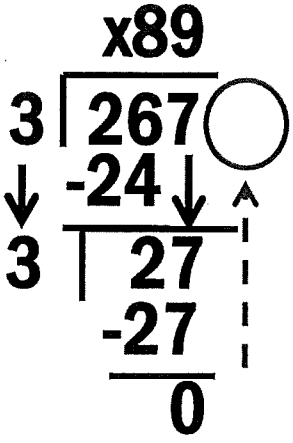
7. Take the division answer you just got (9), called a quotient, and multiply it with the divisor (3). Place that answer of 27 below the other 27.



Subtract

(*27 - 27 = 0*)

8. Subtract your multiplication answer (product, 27) from the number you divided into (27).



Bring Down

(*There are no more numbers to bring down.*)

9. Since there are no more numbers to bring down, you are done. Your quotient (answer) is 89 with no remaining items left over. 3 goes in to 267 evenly, 89 times. If you had a number at the bottom after subtracting for the final time with no more numbers to bring down, then that number would be your remainder. Example below: