

Multiply One Number Over 100 By A Number Under 100:

A. From algebra we learn:

$$(100 + a)(100 - b) = 100(99 + (a-b)) + (100-ab)$$

B. Using numbers instead of variables we get:

1. For the last set of numbers, multiply the differences between each number and 100. Subtract this value from 100. Write this down (make sure it takes up 2 place values).
2. Take the difference of the number over 100 and subtract it from the difference of the number under 100. Add this value to 99. Write this down.

C. Examples:

Ex [1] $104 \times 98 =$ _____

- a. The difference between the two numbers is 4 and 2 respectively.
 $4 \times 2 = 8$. $100 - 8 = 92$. Write 92.
- b. $4 - 2 = 2$. $99 + 2 = 101$. Write 101.
- c. The answer is 10192.

Ex [2] $92 \times 106 =$ _____

- a. The difference between the two numbers is 8 and 6 respectively.
 $8 \times 6 = 48$. $100 - 48 = 52$. Write 52.
- b. $6 - 8 = -2$. $-2 + 99 = 97$. Write 97.
- c. The answer is 9752.
- d. Notice in step 2, we had to subtract $6 - 8$ and not $8 - 6$. This trick requires you to subtract the difference of the number over 100 minus the difference of the number less than 100.