

Multiplying Two Numbers Whose Ten's Digits Are The Same And Whose One's Digits Add To 10:

A. From algebra we learn:

$$(10a + b)(10a + (10-b)) = 100(a)(a + 1) + (b)(10 - b)$$

B. Using numbers instead of variables we get the following rules:

1. Multiply the one's digits together. Write this number down (make sure the number takes up 2 place values).
2. Multiply the number in the ten's digit by that number plus 1. Write the result.

Ex [1] $49 \times 41 = \underline{\hspace{2cm}}$.

- a) $9 \times 1 = 9$. Write 09 to take up 2 place values.
- b) $4 \times (4 + 1) = 4 \times 5 = 20$. Write 20.
- c) The answer is 2009.

Ex [2] $253 \times 257 = \underline{\hspace{2cm}}$.

- a) $3 \times 7 = 21$. Write 21.
- b) $25 \times (25 + 1) = 25 \times 26 = 650$. Write 650. See [Multiplying by 25](#) or [Double and Half](#).
- c) The answer is 65021.