What Is 2500 ÷ 300?

Steven says the answer to 2500 ÷ 300 is 8 remainder 1 because, "You can just cross out two 0's in both numbers to make it 25 ÷ 3. The answer to 25 ÷ 3 is 8 remainder 1." Is he correct? Why or why not?

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Discussion, Suggestions, Possible Solutions

When students simply memorize the rule to simplify division involving the numbers ending with 0's by eliminating the same number of 0's from both numbers, they often produce an incorrect answer as shown in this problem. They do not realize that 2500 ÷ 300 and 25 ÷ 3 are equivalent because we can think about the former using hundred as a unit. Thus, when we use 25 ÷ 3 to solve 2500 ÷ 300, we are indeed asking "how many groups of 3 hundreds can we make with 25 hundreds." Thus, the remainder must also be interpreted with the unit of the dividend and the divisor, that is, there is 1 hundred leftover. Thus the remainder for 2500 ÷ 300 must be 100.