

# A Question about 3-Digit Numbers

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Are there 3-digit numbers where the product of the first digit and the 2-digit number formed by the other digits equals the product of the last digit and the 2-digit number formed by the first two digits? In other words, if  $\overline{abc}$  is a 3-digit number, is it possible that  $a \times \overline{bc} = \overline{ab} \times c$ ?

Questions such as the above reinforce the conceptual understanding of place value, divisibility rules and symbolic notation and enable students to make a problem statement, understand constraints and reason systematically.

**Solutions are given on page 59**

Hint: The notation  $\overline{abc}$  for a 3-digit number indicates that the number is  $a \times 100 + b \times 10 + c \times 1$ .

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*Keywords: Place value, constraints, reasoning, justification*