Solution to a Question about 3-Digit Numbers

Problem may be found on page 51

There are many ways of finding the solution, one of these is outlined below.

From the question (and the hint) given on page …. it should be easy to form an equation reflecting the requirement $a \times \boxed{bc} = \boxed{ab} \times c$.

Simplify this to the extent possible. Now, one must find values of *a, b, c* that satisfy this equation, from the set 1 to 9. Values 1 to 9 can be assigned to *a* and *b* in turn, and the corresponding value of *c* computed. Cases where *c* belongs to the set 1 to 9 are solutions.
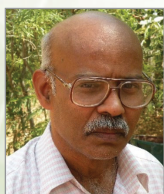
Ignore trivial solutions like 111, 222, etc. Tables like the one below, with values of *a* along the rows and values of *b* along the columns can help you. A sample entry is given. It gives the trivial solution 111.

					Values of b				
$10ab$	1	2	3	4	5	6	7	8	9
1	10								
2									
3									
4									
5									
6									
7									
8									
9									

Values of a

					Values of b				
$9a + b$	1	2	3	4	5	6	7	8	9
1	10								
2									
3									
4									
5									
6									
7									
8									
9									

There are only four solutions: 164, 195, 265, 498.

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