



Problem of the Week Grade 9 and 10

The Case of the Missing Digits

A student discovered the following question on a scrap piece of paper.

$$\begin{array}{r} 2 \blacksquare 4 \\ + 3 2 9 \\ \hline 5 \blacklozenge 3 \end{array}$$

In both the top and bottom numbers, the middle digit was unreadable. However, there was a note on the page beside the question which read: “the sum is divisible by 3.”

If the missing middle digit in the top number is A and the missing middle digit in the bottom number is B , determine all possible values for A and B .

