



## Problem of the Week

### Problem C

#### What a Mess!

Jing was looking through an old math notebook and found the following mess on one of the pages:

$$\begin{array}{r} 2 \quad \text{[smudge]} \quad 4 \\ + 3 \quad 2 \quad 9 \\ \hline \text{[smudge]} \quad 5 \quad \text{[smudge]} \quad 3 \end{array}$$

The sum is divisible by three.

The middle digit of the top and bottom numbers were both smudged and unreadable. Beside the question there was a handwritten note which read: “The sum is divisible by three.”

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  $B$ .

