# Problem of the Week

## Problem E

## An Average Mistake

Students in three different classes wrote the same Calculus exam, which was marked out of 100. One class of 22 students averaged 87%, the second class of 27 students averaged 83%, and the third class of 31 students averaged 81%.

Three students, Abby, Ben, and Cara, discussed their results. Abby obtained a mark one less than Ben and Cara obtained a mark one more than Ben. Upon reviewing their exams, Abby and Ben both discovered addition errors, and their marks were each increased to 92. Cara found an unmarked question, which also raised her mark to 92.

These corrections changed the combined exam average for all students across the three classes to exactly 84%. What marks did Abby, Ben, and Cara originally receive before the errors were corrected?

