



Problem of the Week

Problem E

Sesquicentennial

This year, Canada celebrated its sesquicentennial, the 150th anniversary of Confederation. Many people had or are having special celebrations to honour this occasion.

For one of the gatherings, an invitation was made by overlapping three squares, as shown below. Each of the squares has a positive integer side length. Side AB of the smallest square lies along side AC of the middle square which lies along side AD of the largest square. The area of the middle square not covered by the smallest square is 33 cm^2 .

If $BC = CD$, determine all possible side lengths of each square.

