

The Problem of the Month
November, 2022

Find integers k and m such that $1 < k < m$ and the sum of the integers 1 through $k-1$ equals the sum of the integers from $k+1$ up to and including m . That is, we seek the k and m such that the sum of the terms in each of the two bracketed expressions are equal.

$$(1 \ 2 \ 3 \ 4 \ \dots \ k-1) \ k \ (k+1 \ k+2 \ \dots \ m)$$

For extra honors, show that the solution is not unique. You must give a mathematically reasoned solution. A simple computer search will not be acceptable.