

Zbl 427.10004

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*How many pairs of products of consecutive integers have the same prime factors? (Research problem).* (In English)

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The solution of the recurrence relation  $f_n = aF_{n-1} - bF_{n-2}$  is shown to be very simply connected to the number of distinct partitions of a segment of length  $n$  into  $p$  parts of length 2 and  $(n - 2p)$  parts of length 1. A sum rule is obtained and known results concerning Fibonacci numbers (for which  $a = b = 1$ ) are recovered.

Classification:

11A41 Elementary prime number theory

00A07 Problem books

Keywords:

pairs of products of consecutive integers; prime factors