$$5\sum_{q=1}^{p}\sum_{r=1}^{q} F_{2r-1}^2 = \sum_{1}^{p} F_{4q} + 2\sum_{1}^{p} q = F_{2p}F_{2p+2} + (p+1)p\ .$$

Hence,

$$25\sum_{p=1}^{n-1}\sum_{q=1}^{p}\sum_{r=1}^{q} F_{2r-1}^2 = 5\sum_{1}^{n-1} F_{2p}F_{2p+2} + 5\sum_{1}^{n-1} p^2 + 5\sum_{1}^{n-1} p =$$

$$= F_{4n} - 3n + (5/6)n(n-1)(2n-1) + (5/2)n(n-1) =$$

$$= F_{4n} + (n/3)(5n^2 - 14)\ .$$

Also solved by C. Peck, M. Yoder, A. Shannon, S. Hamelin, and D. Jaiswal.

EDITORIAL NOTE. C. B. A. Peck, in his solution, obtained the identity

$$25\sum_{q=1}^{n}\sum_{r=1}^{q} F_{2r-1}^2 = L_{4n+2} + 5n(n+1) - 3.$$

[Continued from page 371.]
and also ctn arc cos φ = sin arc cos $\varphi = \sqrt{\varphi}$. The results are summarized below.