

$$= (x^2 + y^2 + 1)z_{r+2,s+2} + xy z_{r+1,s+1} + z_{r,s} .$$

Hence,

$$z_{r+4,s+4} = xy z_{r+3,s+3} + (x^2 + y^2 + 2)z_{r+2,s+2} + xy z_{r+1,s+1} - z_{r,s} .$$

Thus,

$$a = -xy, \quad b = -(x^2 + y^2 + 2),$$

$$c = -xy, \quad d = 1 .$$

*Also solved by W. Brady, D. Zeitlin, and D. V. Jaiswal.*

Late Acknowledgement: D. V. Jaiswal solved H-126, H-127, H-129, H-131.



## LETTER TO THE EDITOR

DAVID G. BEVERAGE  
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In regard to the two articles, "A Shorter Proof," by Irving Adler (December, 1969, Fibonacci Quarterly), and "1967 as the Sum of Three Squares," by Brother Alfred Brousseau (April, 1967, Fibonacci Quarterly), the general result is as follows:

$x^2 + y^2 + z^2 = n$  is solvable if and only if  $n$  is not of the form  $4^t(8k + 7)$ , for  $t = 0, 1, 2, \dots$ ,  $k = 0, 1, 2, \dots$ .\*

Since  $1967 = 8(245) + 7$ ,  $1967 \neq x^2 + y^2 + z^2$ . A lesser result known to Fermat and proven by Descartes is that no integer  $8k + 7$  is the sum of three rational squares.\*\*

\*William H. Leveque, Topics in Number Theory, Vol. 1, p. 133.

\*\*Leonard E. Dickson, History of the Theory of Numbers, Vol. II, Chap. VII, p. 259.

