

6. Leonard Carlitz, "A Note on Fibonacci Numbers," Fibonacci Quarterly, Vol. 2, No. 1, February, 1964, pp. 15-28.
7. Verner E. Hoggatt, Jr., Fibonacci and Lucas Numbers, Houghton-Mifflin Mathematics Enrichment Series, Houghton-Mifflin, Boston, 1969, pp. 37-47.
8. W. A. Webb and E. A. Parberry, "Divisibility Properties of Fibonacci Polynomials," Fibonacci Quarterly, Vol. 7, No. 5, Dec., 1969, pp. 457-463.



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the first two terms in the Fibonacci series. Who could resist the temptation to test the conjecture that  $y/x = F_{n+1}/F_n$  ?

Now let  $x = kF_n$ ,  $y = kF_{n+1}$ . Then,

$$F_{n+1}/F_n = [k(F_n + F_{n+1}) - 1]/kF_{n+1} ,$$

so

$$k(F_{n+1}^2 - F_n F_{n+2}) = -F_n ,$$

but

$$F_{n+1}^2 - F_n F_{n+2} = (-1)^n ,$$

hence  $n$  is odd, and we have  $k = F_n$ . So,

$$x = F_{2m-1}^2 = 1, 4, 25, 169, \text{ etc. ,}$$

$$y = F_{2m-1} F_{2m} = 1, 6, 40, 273, \text{ etc.}$$

Hence, the children were 4 and 6 years old, Charlie 40, and Mary 25.

