## A NEW PROOF FOR AN OLD PROPERTY

Since  $c \leq m$  and m and n are positive, either  $a \leq 0$  or  $b \leq 0$ . Suppose  $a \leq 0$  and set k = -a. Then

$$bn = c + km$$

and, by Lemma 1,

(1)  $F_{bn} = F_{c+km} = F_{c-1}F_{km} + F_{c}F_{km+1}$ .

Now  $d | F_n, d | F_m$  and, by Lemma 3,  $F_n | F_{bn}$  and  $F_m | F_{km}$ . Therefore,  $d | F_{bn}, d | F_{km}$  and it follows from (1) that  $d | F_{km+1} F_c$ . But  $(d, F_{km+1})$ = 1 since  $d | F_{km}$  and by Lemma 2,  $(F_{km}, F_{km+1}) = 1$ . Therefore,  $d | F_c$ . But, as seen above,  $F_c | d$ . Hence, since both are positive,

$$(\mathbf{F}_{\mathbf{m}},\mathbf{F}_{\mathbf{n}}) = \mathbf{d} = \mathbf{F}_{\mathbf{c}} = \mathbf{F}_{(\mathbf{m},\mathbf{n})}$$

and the proof is complete.

## REFERENCES

- 1. N. N. Vorob'ev, <u>Fibonacci Numbers</u>, Blaisdell Publishing Company, New York and London, 1961.
- 2. G. H. Hardy and E. M. Wright, <u>The Theory of Numbers</u>, Oxford University Press, London, 1954.

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## SOME CORRECTIONS TO VOLUME 1, NO. 3

<u>Page 19:</u> On the third line from the bottom, put in > for = to read

$$(5 + \beta^{n^{X+1}}) >.$$

<u>Page 24:</u> Line 5 should read, instead of " $a_{\alpha} + 2\beta = 0$ ,"  $a_{\alpha} + 2b = 0$ .

<u>Page 30:</u> On line 4, change " $e_i$ " to " $e_1$ ". On line 18, change "unit" to "limit."