Now take $a = -n$ and we get

$$(3.4)\qquad \sum_{j=0}^{\infty} \frac{(-n)_j(-n-b)_j(-n-c)_j}{j!(b+1)_j(c+1)_j}\, x^j = \sum_{r=0}^{\infty} (-1)^r \frac{(-n)_{2r}(b+c+n-1)_r}{r!(b+1)_r(c+1)_r}\, x^r(1-x)^{n-2r}\,.$$

For $n = 2m$ and $x = 1$, (3.4) reduces to

$$(3.5)\qquad \sum_{j=0}^{\infty} \frac{(-2m)_j(-2m-b)_j(-2m-c)_j}{j!(b+1)_j(c+1)_j} = (-1)^m \frac{(2m)!(b+c+2m+1)_m}{m!(b+1)_m(c+1)_m}\,.$$

Now let b,c be non-negative integers. Then (3.5) yields

$$(3.6)\qquad \sum_{j=0}^{2m} (-1)^m \binom{2m}{j}\binom{2m+b+c}{j+b}\binom{2m+b+c}{j+c}$$

$$= (-1)^m \frac{(2m)!(3m+b+c)!(2m+b+c)!}{m!(m+b)(m+c)!(2m+b)!(2m+c)!}\,.$$

For $b = c = 0$ we get (1.8); for $b = 0$, $c = 1$ we get (2.6); for $b = c = 1$ we get (2.7).

REFERENCES

1. E 2395, *Amer. Math. Monthly,* 80 (1973), p. 75; solution, 80 (1973), p. 1146.
2. W. N. Bailey, *Generalized Hypergeometric Series,* Cambridge, 1935.
3. L. J. Slater, *Generalized Hypergeometric Functions,* Cambridge, 1966.

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$$\frac{1}{k} \log \frac{1+\sqrt{5}}{2}$$

as $n \to \infty$. Since this limiting value is an irrational number, the sequence (u_n) is u.d. mod 1.

REMARK. Let p and q be non-negative integers. Then the sequence

$$p,\ q,\ p+q,\ p+2q,\ 2p+3q,\ \cdots$$

or (H_n), $n = 1, 2, \cdots$ with

$$H_n = qF_{n-1} + pF_{n-2}\ (n \geq 3),\quad H_1 = p,\quad H_2 = q$$

possesses the property shown in Theorem 1. For if $v_n = \log H_n^{1/k}$, we have

$$v_{n+1} - v_n \to \frac{1}{k} \log \frac{1+\sqrt{5}}{2}$$

as $n \to \infty$.

Theorem 2. Let p, q, p^* and q^* be non-negative integers. Let (H_n) be the sequence

$$p,\ q,\ p+q,\ p+2q,\ 2p+3q,\ \cdots$$

and (H_n^*) the sequence

$$p^*,\ q^*,\ p^*+q^*,\ p^*+2q^*,\ 2p^*+3q^*,\ \cdots.$$

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