be sufficient to establish that $\lim_{n\to\infty} f_n(x) = f_0(x)$ at every point x on $[0, p]$. The theorem follows immediately then from §5.1 and the fact that

$$f_n(x) = \overset{-1}{F_n}\,[[x]/p + F_n(x - [x])/p],\ 0 \leqq x \leqq p,\ n = 0, 1, \cdots.$$

Theorem 5 establishes the continuity of T from E_p onto E_p^*.

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THE NONLINEAR DIFFERENTIAL EQUATION $y''+p(x)y+cy^{-3}=0$

EDMUND PINNEY[1]

Among the limited number of nonlinear differential equations whose exact solutions are known is to be included

$$y''(x) + p(x)y(x) + c/y^3(x) = 0, \tag{1}$$

for c constant and $p(x)$ given. The general solution for which $y(x_0) = y_0 \neq 0$, $y'(x_0) = y_0'$ is

$$y(x) = [u^2(x) - cW^{-2}v^2(x)]^{1/2}, \tag{2}$$

where u, v form a fundamental set of solutions of the linear equation

$$y''(x) + p(x)y(x) = 0 \tag{3}$$

for which $u(x_0) = y_0$, $u'(x_0) = y_0'$, $v(x_0) = 0$, $v'(x_0) \neq 0$, where W is their Wronskian: $W = uv' - u'v = \text{const.} \neq 0$, and where the radical in (2) stands for that root which at x_0 has the value y_0.

The proof is very simple and will be omitted.

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