In addition the existence of an invariant of order three (which reduces for the euclidean F to the classical formula) is established, and the problem of the existence of invariants of order $k \geq 4$ is posed.

On the General Solution of the Functional Equation

$$f(x + y - xy) + f(xy) = f(x) + f(y)^*)$$

Z. DARÓCZY

The functional equation

$$f(x + y - xy) + f(xy) = f(x) + f(y), \quad (1)$$

where x, y, f are real variables, was considered by M. Hosszú, H. Świątak, I. Fenyő, Z. Daróczy and E. Vincze. In these investigations was assumed that the solution of equation (1) has some regularity properties. In each case the solutions of equation (1) have the form

$$f(x) = Ax + B,$$

where A and B are arbitrary constants.

In this paper we give a simple proof of the following

THEOREM. *If f is a solution of equation (1), then f has the form*

$$f(x) = F(x - 1) + f(1)$$

for all x , where F satisfies the Cauchy functional equation

$$F(x + y) = F(x) + F(y)$$

for all x, y .

From this statement we obtain immediately the previous results.

Rado's Inequality**)

P. S. BULLEN

In a series of recent papers Mitrinović and Vasić have given many interesting extensions of Rado's inequality,

$$n(A_n - G_n) \geq (n - 1)(A_{n-1} - G_{n-1}) \quad (1)$$

and its multiplicative analogue due to Popoviciu,

$$\left(\frac{A_n}{G_n}\right)^n \geq \left(\frac{A_{n-1}}{G_{n-1}}\right)^{n-1}, \quad (2)$$

*) Cf. pp. 130-132.

**) Cf. pp. 149-156.