Research Group in Mathematical Inequalities and Applications

$v(G) > \sum_{m \in G} v(m)$

The value of the Group is greater than the sum of the values of its members.

Problem Corner

Problem 3, (2010)

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Conjecture: For $t > 0$, let

$$\varphi(t) = \frac{1}{te^{t/2}} - \frac{1}{e^t - 1}.$$

Then for $t > 0$,

(1) $$\varphi''(t) + 2\varphi'(t) + \varphi(t) > 0;$$

(2) $$\varphi''(t) + \varphi'(t) + \frac{1}{4}\varphi(t) < 0.$$