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ON AN INEQUALITY

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In [2] I have proved:

<u>Proposition</u>. Let $f,g:[a,b]\to R$, $a<b$, two functions which satisfy the conditions:

i) f and g continue on $[a,b]$;

ii) f - increasing on $[a,b]$;

iii) g second derivative on $[a,b]$ and

$$g''(x)\geq 0 \quad \text{on } [a,b];$$

(V) $g(a)=g'(a)=0$.

If

$$F(x)=\int_a^x f(t)g''(t)dt, \quad x\in[a,b],$$

then the inequality

$$(1)\quad \int_a^b F(t)dt \geq g(b)f(a)$$

is verified.