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$$\left(\frac{\left(\frac{2F}{a_1}\right)^k + \left(\frac{2F}{a_2}\right)^k + \left(\frac{2F}{a_3}\right)^k}{3}\right)^{1/k} \leqq \frac{\sqrt{3}}{2}\left(\frac{\left(\frac{2F}{h_1}\right)^k + \left(\frac{2F}{h_2}\right)^k + \left(\frac{2F}{h_3}\right)^k}{3}\right)^{1/k},$$

$$\left(\frac{a_1^{-k} + a_2^{-k} + a_3^{-k}}{3}\right)^{1/k} \leqq \frac{\sqrt{3}}{2}\left(\frac{h_1^{-k} + h_2^{-k} + h_3^{-k}}{3}\right)^{1/k},$$

$$\left(\frac{h_1^{-k} + h_2^{-k} + h_3^{-k}}{3}\right)^{-1/k} \leqq \frac{\sqrt{3}}{2}\left(\frac{a_1^{-k} + a_2^{-k} + a_3^{-k}}{3}\right)^{-1/k}.$$

Thus the result of LEUENBERGER implies the inequality

$$M_{-1}(h) \leqq \frac{\sqrt{3}}{2} M_{-1}(a) .$$

L. CARLITZ stated in [1] the inequality

$$(a_1\, a_2\, a_3)^2 \geqq \left(\frac{4}{\sqrt{3}} F\right)^3$$

which, as $2F = a_i h_i$, gives

$$(a_1\, a_2\, a_3)^2 \geqq \frac{8}{3\sqrt{3}}\, a_1\, a_2\, a_3\, h_1\, h_2\, h_3 ,$$

$$h_1\, h_2\, h_3 \leqq \left(\frac{\sqrt{3}}{2}\right)^3 a_1\, a_2\, a_3 ,$$

$$\sqrt[3]{h_1\, h_2\, h_3} \leqq \frac{\sqrt{3}}{2} \sqrt{a_1\, a_2\, a_3} .$$

The last inequality may be written in the form

$$M_0(h) \leqq \frac{\sqrt{3}}{2} M_0(a) .$$

The first part of (1) follows from the inequality of KUBOTA (see [2]):

$$M_2(a) \leqq R\sqrt{3}$$

and theorem of SCHLÖMILCH: If $m < n$, then

$$M_m(x) \leqq M_n(x) .$$

I do not know the solution of the following problem:

Let K be the least upper bound of the values of k for which inequality

$$M_k(a) \leqq R\sqrt{3}$$

holds. Result of KUBOTA implies the inequality $K \geqq 2$. What is the exact value of K? Is K equal to

$$\frac{\log 9 - \log 4}{\log 4 - \log 3} \ ?$$

REFERENCES

[1] L. CARLITZ, *Problem E 1454*, Amer. Math. Monthly *68*, 177 (1961).
[2] T. KUBOTA, Tôhoku Math. Journ. *25*, 122–126 (1925).
[3] F. LEUENBERGER, *Dreieck und Viereck als Extremalpolygone*, El. Math. *15*, 77–79 (1960).

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Berichtigung

In den Anmerkungen zur kleinen Mitteilung über den Mordellschen Beweis einer Ungleichung von Erdös [El. Math. *17*, 17 (1962)] ist ein Name unrichtig erschienen; er lautet: D. K. KAZARINOFF.