- (XII.6) Show that for $|x| < 1$,
$$\left(\sum_{n=1}^{\infty}\left\lfloor\frac{n}{\sqrt{2}}\right\rfloor x^n\right)\left(\sum_{n=1}^{\infty}x^{\lfloor n\sqrt{3}\rfloor}\right) = \left(\sum_{n=1}^{\infty}\left\lfloor\frac{n}{\sqrt{3}}\right\rfloor x^n\right)\left(\sum_{n=1}^{\infty}x^{\lfloor n\sqrt{2}\rfloor}\right).$$
- (XIV.3) Let A, B, C be distinct points in the plane with $BC = a$, $CA = b$, $AB = c$. Determine the maximum and minimum values of $\dfrac{(a^3 + b^3 + c^3)^2}{(b^2 + a^2)(c^2 + a^2)(a^2 + b^2)}$ and identify the configurations of points for which these extreme values are attained.
- (XIV.7) Let $a_1, \ldots, a_n$ $(n \geqslant 2)$ be distinct positive real numbers with $p_i = \prod_{j=1, j\neq i}^{n}(a_j - a_i)$ for $1 \leqslant i \leqslant n$. Show that $\sum_{i=1}^{n} a_i^{1/p_i} < 1$.
- (XV.2) Find all continuous functions $f : (0, \infty) \to (0, \infty)$ such that $f(a) + f(b) + f(c) = f(a)f(b)f(c)$ whenever $ab + bc + ca = 1$.

Quand les mathématiques posent problème(s) is attractively produced with well spaced, uncluttered pages and it is good to have Michel Bataille's beautifully composed problems gathered together in one convenient place. These are enticing problems to savour and relish: indeed, reflecting on what really makes each finely polished gem tick is an excellent induction not just into the art and craft of problem solving but into problem setting as well. Actually, my review could have been a one-liner: if you enjoy Problem Corner, you will certainly enjoy this book!

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Reviewers Needed

The Reviews Editor would also be pleased to learn of readers who would like to write book reviews particularly concerning Game Theory, Optimisation and Mathematical Economics, and he would also very much like to expand the female representation on the reviewing panel. Potential reviewers can obtain some idea of length and style required by looking at previous reviews. Of course, reviewers get to keep any books they receive. Those interested should contact the Reviews Editor by e-mail. Contact details can be found on the next page of this issue.

GERRY LEVERSHA

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