Reference

1. F. G.-M., *Exercices de Géométrie*, Éditions Jacques Gabay, Paris, (1991). This is a reprint of the 6th edition published by Mame and De Gigord (1920).

(F. G.-M. is Frère Gabriel-Marie, whose given name was Edmond Jean-Antoine Brunhes (1834-1916). He was a member of the Order of Christian Brothers of La Salle, a teaching Order, and was the Superior from 1897 to 1913. He wrote several mathematical works which, under the rules of the Order, had to appear over the initials of the religious name of the current Superior.)

Correspondence

DEAR EDITOR,

Proofs of the irrationality of e

The celebration of the tercentenary of Euler's birth prompts me to raise a question that has nagged me for several years. It is generally accepted that Euler in his 1737 paper on continued fractions (Eneström number, E71) provided all the ingredients for the first proof of the irrationality of e by establishing that it has the non-terminating simple continued fraction [2;1,2,1,1,4,1,1,6,1,1,...]; he reprised the details in his later book *Introductio in analysin infinitorum* (E101, E102) and in a later paper (E595).

My query is this. Who was the first person to give the now standard short proof of the irrationality of e, by showing that $0 < n!e - \sum_{k=0}^{n} \frac{n!}{k!} < 1$ and deducing that $n!e$ is never an integer? Certainly this proof was common currency by the time of the late 19th century classic algebra texts such as Hall and Knight's *Higher algebra* and Chrystal's *Algebra*, but I would be very interested to learn of any 18th or early 19th century sightings!

Yours sincerely,

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DEAR EDITOR,

Correction & Further Generalisation: Note 91.65 A question of balance: an application of centroids (November 2007)

I am grateful to John Silvester, King's College London, for kindly pointing out an error in my attempted affine proof of the Lemma used in the above note, as well as for other corrections and improvements. This in turn stimulated a further generalisation of the main result as given below.

Though an affine transformation sends a parallelogram to a parallelogram, it cannot transform two parallelograms into two parallelograms with corresponding sides parallel unless the original parallelograms already had their corresponding sides parallel. What I