Review
Source: *The Mathematical Gazette*, Vol. 7, No. 111 (May, 1914), p. 337
Published by: Mathematical Association
Stable URL: http://www.jstor.org/stable/3602678
Accessed: 03-01-2016 02:59 UTC

ANSWERS TO QUERIES.

[85, p. 246, vol. vii.] I had it second-hand from the director of an astronomical observatory, that he insisted on his computers writing 0·11 and not ·11, as there was no chance of the former being misread as 11. C. W. ADAMS.

[85, p. 246, vol. vii.] I generally put 0·125 for one-eighth expressed as a decimal, because if the point slips out in printing it is still reasonably obvious what is meant. R. W. K. E.

[87, p. 247, vol. vii.] If x, y, z are the tripolar coordinates of $P(x=PA^2$, etc.), and Q be the point whose trilinear coordinates are (α, β, γ), then

$$2\Delta . PQ^2 = \Sigma a\alpha x - 2R\Sigma a\beta\gamma$$

(*Math. Gaz.*, p. 186, vol. ii.),

from which the result required follows immediately. G. N. BATES.

REVIEWS.

Differential and Integral Calculus. By LORRAIN S. HULBURT. Pp. xviii, 481. 1912. (Longmans, Green & Co.)

This book has many good points. It is readable and fairly accurate, and the examples are simple and interesting. The geometrical parts are the best, but even in the analytical parts a good deal is done correctly which is bungled hopelessly in many books with wide circulations: I may instance the treatment of differentials and the differentiation of x^n. The author does not pretend to be rigorous in his treatment of fundamentals, and the compromise which he attempts to set up between rigour and simplicity is often a very reasonable one. Sometimes he is less successful; and I append a few criticisms of particular passages, which might be useful if the book should reach a second edition.

P. 5. $3-(2-1)=7-(3+2)$ is certainly not an 'identity,' for it contains no variables. The author's example contradicts his own definition.

Pp. 10 *et seq.* The author seems to suggest that a discontinuity of a function is necessarily accompanied by a failure in its definition.

P. 68. The 'definition' of an 'increasing function' is not a definition at all, but a mere tautology.

Pp. 88 *et seq.* The treatment of the exponential limit is bad. The author *does* profess to prove that

$$\lim\left(1+\frac{1}{n}\right)^n = e,$$

when n is restricted to be a positive integer, but his proof is fallacious. He then tacitly assumes that his proof applies to the case in which $n \to -\infty$. He recognises that he has not proved everything, but not that he has proved nothing.

Pp. 240 *et seq.* All the discussion of the definite integral is also bad. It would have been much better to give no proof at all. The proof of the existence of a definite integral is substantially simply a proof that a certain type of area exists. If the latter proposition, which involves all the difficulties of the former, is to be assumed, nothing can be gained by not assuming the former as well. The most that can be done profitably is to give the obvious geometrical reasons for supposing the two problems to be identical.

Pp. 388 *et seq.* To define $e^{i\theta}$ as meaning $\cos\theta + i\sin\theta$, and then to 'deduce' De Moivre's theorem by assuming that $(e^{i\theta})^n = e^{ni\theta}$, is palpably absurd.

Pp. 410 *et seq.* The use of the term 'consecutive' in the treatment of envelopes is unfortunate.

I may add that I cannot regard an elementary mathematical book as a very suitable place for instruction in the rudiments of French, and that in any case I have grave doubts whether "Kō'sheé" is a very accurate phonetic rendering of the name of the great mathematician.