

notion has not been followed out with complete success. The examples are drawn in the main from branches of Mathematical Physics which must be quite unintelligible to anyone who has not a pretty thorough acquaintance with all that this book is supposed to teach him; and, quite apart from that, they are in the main far too difficult. Perhaps a larger number of easy geometrical illustrations and fewer applications from Physics would have been advisable.

The solution of the interesting problem of the decomposition of radioactive substances in § 14 seems to be incorrect (cf. Hilton's *Linear Substitutions*, p. 88); for without the limitation $\lambda_0 > \lambda_1 > \lambda_2 > \dots$ we might have P_m negative. In practice these inequalities are not satisfied. We must appeal to the physicists for the explanation of this very interesting paradox.

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CORRESPONDENCE.

TO THE EDITOR OF THE *Mathematical Gazette*.

"PIARAR."

SIR,—On the covers of certain answer books given out to candidates for Government examinations, the area of a circle is stated to be πrr .

It would be interesting to learn what precedent the framers of these books had for the use of a double letter to denote what most sensible people call a square and represent by r^2 .

Certainly arithmetic affords no justification for the innovation, for 77 means seventy-seven, and when it is necessary to represent the square of 7 the pupil is taught the better notation 7^2 .

Neither is the change justified by algebra. It is true that in beginning this subject, pupils are taught that when two letters are placed together like ab with no explanatory sign, they are to be multiplied and not added; but as they have already learnt the notation for squares, there is no need to introduce them to an inconvenient and unfamiliar substitute for a recognised notation.

I have seen other books in which the formula is given in the more explicit form $\pi \times r \times r$. To this the objection does not apply, but if anything is required which is intermediate between this and the standard notation πr^2 the proper choice to make is $\pi \times r^2$ or even $\pi r \times r$, certainly not πrr .

I am, Sir, yours faithfully,

"PIEXARSQUARED."

"TEN, TWELVE, OR SIXTY."

SIR,—At present we are being flooded with appeals for the introduction of a decimal system of weights, measures and coinage. This has been met by an unanswerable objection in a letter in the *Morning Post* pointing out the inconvenience of the number ten, and urging the teaching of a duodecimal scale of notation.

Of course this is the proper solution of the whole question. But the difficulty remains that, in any problem, we have to take account of human inertia, ignorance, prejudice and obstinacy. The first thing we shall be told is that "ten is a much more convenient number than twelve, because in multiplying or dividing by ten you only have to put on or take off a 0 at the end."

Now there is one plan which meets this objection whatever be its disadvantages in other respects.

When the Metric System was introduced, the introducers stopped short of dividing the day into 25 hours or 100 quarters, each large interval being divided into 10 or possibly 100 minutes and each minute into 100 seconds. On the contrary, the factor 60 was retained for minutes and seconds, and everybody of whatever nationality uses it.