

given by $ax = \frac{1}{6}\sqrt{10} \simeq .527$ and its gradient is $-\frac{1}{2}$. So for all these curves, given by different values of a , the *tangent-normals are all parallel*. Their points of contact lie on a straight line through the origin whose equation is $3x + 4y = \frac{1}{2}x\sqrt{10}$, and the points where these lines are normals also lie on a straight line through the origin.

Again, for the curve, or curves, $y^2 = e^{2x}$, if the line $y = x + 1$ cuts the curve where $x = -2x_1$, then the normal to $y = -e^x$ where $x = -x_1$ is tangent to $y = e^x$ where $x = x_1$.

Possibly some teachers will dislike the mixture of accurate work with approximate solution of equations which is typical of the type of problem suggested, but this mixture seems to fit the modern slogan "elementary mathematics is a single subject"

It may be added that anyone who "discovers" any property of tangents or normals to conics is quite certain to find out on enquiry that it has been discovered and listed long ago, but it is quite possible that no one has yet taken the trouble to find out which tangents of $y = \sin 3x$ are also normals.

C. O. T

CORRESPONDENCE.

THE ORDER OF TEACHING MATHEMATICAL SUBJECTS.

To the Editor of the *Mathematical Gazette*.

SIR,—If a suggested reform of mathematical teaching in schools involved a change of order, it would be impracticable, if only because it would so upset any pupil coming to or going from his school, unless some assignment plan were operating by which the order of work could be varied. This seems to me to be a matter of considerable importance, since some experiments in "coaching" have convinced me that our traditional order could, in several places, be changed with great advantage.

Without perhaps realising it, we tend to follow the order proper to a systematic academic treatise; so a teacher of language might spend the first term studying the noun, then the pronoun, then the adjective, followed by a term or two on the verb and the adverb, the conjunction ending with sentences and word order. This is possibly very good for those who already know a good deal of the language and can speak it reasonably well, but it would not do for beginners. So too the traditional order may be sound for mathematical work at the University level, but not always (I do not say "never") for beginners at school.

I am sure that many members would welcome the opinion of the Teaching Committee on this topic.

Yours, etc., C. DUDLEY LANGFORD.

1647 There is then no sufficient ground for admitting Mr. Locke's celebrated definition of wit, which he makes to consist in the finding out striking and unexpected resemblances in things as so to make pleasant pictures in the fancy, while judgment and reason, according to him, lie in the clean contrary way, in separating and nicely distinguishing those wherein the smallest difference is to be found. On this definition Harris, the author of *Hermes*, has very well observed that the demonstrating the equality of the three angles of a right-angled triangle to two right ones, would, upon the principle here stated, be a piece of wit instead of an act of the judgment or understanding, and *Euclid's Elements* a collection of epigrams.—William Hazlitt, *Lectures on the English Comic Writers*, I.