CORRESPONDENCE.

SPELLING.

To the Editor of the *Mathematical Gazette*.

SIR,—In a School Certificate script I once had a gem which should be added to Dr. Maxwell's list. It was '' hysoseles ''

Yours, etc., BERTHA JEFFREYS.

Girton College, Cambridge.

EXAMINATION QUESTIONS.

To the Editor of the *Mathematical Gazette*.

SIR,—The question quoted by Mr. Newling from the Tripos of 1894 is not altogether contemptible, for it affords an excellent exercise in the art of presenting a proof economically in a form independent of the accidents of a figure. In the argument

$$CE/YF = EA/YF = EX/AF = EX/FB$$

each ratio is algebraic, that is, bears a significant sign.

Mr. Newling has by no means found a record low level. My own entry for this competition is from a London M.Sc. examination paper, 1937, and I back it against all comers :

'' Establish the identity

$$\Sigma \frac{e_\alpha - e_\beta}{\sqrt{(\wp u - e_\alpha)} - \sqrt{(\wp u - e_\beta)}} = -2\{\sqrt{(\wp u - e_1)} + \sqrt{(\wp u - e_2)} + \sqrt{(\wp u - e_3)}\}$$

where on the left-hand side the three differences are taken in the cyclic order (1 2 3).''

Yours, etc., E. H. NEVILLE.

SIR,—Would the Tripos examiners of 1894 expect one of the following arguments :

(i) Take a series of positions of AXY Then $(X\ \ .) = (Y\ .\ )$ and D is a common point of both ranges. Hence $B(Y\ \ .) = C(X\ \ .)$ and BDC is a common ray. Hence the locus of the intersection of BY and CX is a straight line, which, by taking two special cases of AXY, namely AB and AC, is the line at infinity.

(ii) Apply Pappus' theorem to the two triads of collinear points

$$
\begin{array}{ccc}
1 & 2 & 3 \\
A & X & Y \\
D & B & C
\end{array}
$$

$\left(\dfrac{AB}{DX}\right)\left(\dfrac{AC}{DY}\right)\left(\dfrac{BY}{CX}\right)$ are collinear ; that is, BY, CX intersect on the line at infinity.

(iii) Apply the reciprocal of Pappus to the two triads of concurrent lines

$$
\begin{array}{ccc}
1 & 2 & 3 \\
AB & AC & AX \\
DF & DE & DC
\end{array}
$$

Then BY, CX and the line at infinity are concurrent.

Yours, etc., L. SADLER.

SIR,—Mr. Newling's question (*Gazette*, p. 191) could best be answered by Mr. A. N. Whitehead, who was one of the examiners in the Tripos of 1894. If the same question were set in 1944, the candidates would probably say