11. *a.* Six parallelograms, whose diagonals intersect at M are HOUO′, KOVO′, LOWO′; HKUV, KLVW, LHWU.

b. Six parallelograms whose diagonals intersect at J are HIUI′, KIVI′, LIWI′; HKUV, KLVW, LHWU.

c. Six parallelograms whose diagonals intersect at J_1 are HI_1UI_1', KI_1VI_1', LI_1WI_1'; HKUV, KLVW, LHWU.

12. *a.* HWKULV is a hexagon whose opposite sides are parallel, and respectively $=\frac{1}{2}O'A$, $\frac{1}{2}O'B$, $\frac{1}{2}O'C$.

b. HWKULV is a hexagon whose opposite sides are parallel, and respectively $=\frac{1}{2}I'A$, $\frac{1}{2}I'B$, $\frac{1}{2}I'C$.

c. HWKULV is a hexagon whose opposite sides are parallel, and respectively $=\frac{1}{2}I_1'A$, $\frac{1}{2}I_1'B$, $\frac{1}{2}I_1'C$.

13. *a.* AO′, BO′, CO′ pass through the points where the circumscribed circle of △HKL cuts the sides of △ABC.

b. AI′, BI′, CI′ pass through the points where the inscribed circle of △HKL touches the sides of △HKL.

c. AI_1', BI_1', CI_1' pass through the points where the first escribed circle of △HKL touches the sides of △HKL.

On Determinants with *p*-termed elements.

By THOMAS MUIR, M.A., F.R.S.E.

This paper will be found in the *Messenger of Mathematics* for January 1884, Vol. xiii, New Series.

Construction for Euclid II. 9, 10.

By R. W. M'ARTHUR.

Take line AB divided in C and D as in Euclid. On AD describe the rectangle AEFD having AE, DF each equal to AC or CB. According as D is in AB, or in AB produced, from DF or DF produced cut off FG equal to DB; and join CG, GE, EC.

Mr JAMES TAYLOR gave a proof of the known theorem :—"If two sides of a skew quadrilateral ABDC inscribed in a circle be produced to meet in E, and FEG be drawn perpendicular to the diameter passing through E, the two other sides produced make equal intercepts on FEG." Mr Taylor's object was to call attention to the desirability of obtaining a simpler mode of demonstration.

https://doi.org/10.1017/S0013091500036932 Published online by Cambridge University Press