ALGEBRA.

THIRD DIVISION.

Values.

1. Define the terms Coefficient, Exponent, Vinculum, Equation..... 5
2. What are the three essential properties of every equation?..... 5
3. Give the rule for transposing from one member to another..... 5
4. Divide $a^3+b^3+c^3-3abc$ by $a+b+c$..... 10
5. Given $\frac{x-3}{4}-6-\frac{x-1}{5}=\frac{x-5}{3}-8$, to find x 15
6. Given $\frac{x}{a-b}=\frac{x}{a+b}+1$, to find x..... 15
7. The sum of two numbers is 60, and the less is to the greater as 5 to 7: what are these numbers?..... 20
8. Divide £4,400 among three persons so that the first may have three-fifths of the second's share, and the second three-fourths of the third's share. 25

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GEOMETRY.

THIRD DIVISION.

Values.

1. How may the Science of Geometry be defined? What is its object? Is there any distinction between Plane Geometry, and the Geometry of Planes?..... 5
2. Define the terms Problem, Postulate, Axiom and Theorem..... 5
3. Describe briefly the use and foundation of Definitions, Axioms, and Postulates..... 10
4. Define adjacent Angles, Opposite Angles, Vertical Angles, and Alternate Angles; and give examples from the First Book of Euclid.....
5. What proposition is necessary to enable us to construct an Isosceles Triangle
6. Enunciate the proposition you employ in the proof of Euclid I. 16..... 15
7. How is it shewn that equal Triangles upon equal bases have equal altitudes, whether they are situated on the same or opposite sides of the same straight line?..... 20
8. Prove that if a straight line be divided into two parts, the squares of the whole line, and of one of the parts, are equal to twice the rectangle contained by the whole and that part, together with the square of the other part..... 25

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