

Equation referred to the asymptotes. Area between the asymptotes (as axes) and the co-ordinates of any point.

General equation of the 2nd degree; Chapter XIII. General acquaintance with the method and results of § 269 to 272. To trace a conic, easy examples only. Read over § 272, 280. Meaning of "discriminant of a conic."

Chapter XIV—General equation to a conic. Read over § 288-3. Pole and polar. Read over § 289-91. Equation referred to the tangents, § 293-4. Similar curves, 296-8.

Chapter XVI—Section of a cone; a different proof will be given showing the foci and directrices. Omit § 348-9. Anharmonic ratio; the ratios $AB \cdot DC : AC \cdot DB : AD \cdot BC$. Harmonic pencil. Omit § 356-61.

Chapter XVII—Projections; § 362-89, and read over the rest. Marks—December, 500.

SECTION I.

Differential Calculus (Williamson, Ed., 1880.)

Chapter I—Proof of $d(x^n)$ by binomial theorem, instead of § 16-18. Differentials used equally with differential coefficients. Differential of the function of a function obtained directly without the investigation of § 19. Geometrical condition for

$$\frac{dy}{dx} \times \frac{dx}{dy} = 1.$$

Chapter II—Successive differentiation; differential of the independent variable is constant. Omit § 39, 43 to end of chapter. Read over Liebnitz Theorem § 48.

Chapter III—Expansion of functions. "Remainder" noted but not used in applications of Taylor's and Maclaurin's Theorems. Expansion of $\tan^{-1}x$ by integration. Omit § 65-68. Read over § 73 with equations (27), (28), (29), (33). Interpretation of remainder to shew that if two points be taken on a curve, the chord joining them is parallel to the tangent at some intermediate point, § 76. Omit § 77 to end of chapter.

Chapter IV—Indeterminate forms; algebraic processes not necessary. Consider also $\alpha - \alpha$. Read over the proof in § 92.

Chapter V—Partial differentiation, § 95-6. Result only of § 97. Omit § 98, 101. Result only of Euler's Theorem, § 102. Read over § 103-4. Omit § 107, also § 110 to the end of chapter.

Chapter VI—Read over the first two pages and note results. Omit the rest except § 120.