

MCGILL COLLEGE, MONTREAL.

SESSIONAL EXAMINATIONS, 1880, -FIRST YEAR. EUCLID -ARITHMETIC.

Examiners, - ALEXANDER JOHNSON, LL.D., G. H. CHANDLER, M.A.

Candidates are requested to write their answers on two separate sets of papers headed A and B respectively to correspond with the questions.

A

1. If four right lines be proportionals, the rectangle under the extremes is equal to the rectangle under the means.

a. The rectangle under the sides of any triangle is equal to the rectangle under the perpendicular on the base and the diameter of the circumscribed circle.

2. From a given circle cut off a segment containing an angle equal to two-thirds of a right angle.

3. Define a tangent to a circle, and state and prove the proposition of Book III, which enunciates the fundamental property of the tangent.

4. If a rectangular piece of land 284 feet long by 147 feet wide be sold for \$140.00, what is the cost per acre?

5. Reduce the mixed circulating decimal $3\frac{65}{100}$ to a vulgar fraction, and verify the result.

6. Find to three places of decimals (1) the length of the diagonal of a square whose area is one square inch, and (2) the ratio of his

length to that of the diameter of a circle having the same area.

B.

7. Find the centre of a given circle.

8. Describe an isosceles triangle having each of the angles at the base double of the third angle.

9. If the sides of two triangles, about each of their angles, be proportionals, the triangles shall be equiangular to one another, and shall have those angles equal which are opposite to the homologous sides.

10. If two similar parallelograms have a common angle, and be similarly situated, they are about the same diameter.

11. What is the bank discount on a note for \$614.30, due two months hence, discounting at 7 per cent?

12. A can do a piece of work in 7 days, which A and B working together can do in $4\frac{1}{2}$ days. In what time could B alone do it.

13. Divide MMDCLXC by $\frac{2}{3}$ of $\frac{3}{4}$.