

JOURNAL OF EDUCATION

NOVA SCOTIA

NEW SERIES.

OCTOBER, 1890.

Vol. XI. No. 1.

OFFICIAL.

The following Regulations supersede those formerly in force respecting the JOURNAL OF EDUCATION:—

I.—The JOURNAL OF EDUCATION shall hereafter be published semi-annually, in the months of April and October respectively, and shall continue to be the medium of Official Notices in connection with the Department of Education.

II.—The JOURNAL will be furnished gratuitously, according to law, to each Inspector, Chairman of Commissioners, and Board of Trustees, and will be supplied to other parties wishing it at the rate of ten cents per copy

III.—Each Secretary of Trustees is instructed and required to file and preserve the successive numbers of the JOURNAL for the benefit of his fellow Trustees and the Teacher or Teachers of his section, and their successors, and to inform his associates in office and the Teacher or Teachers of its receipt, so soon thereafter as may be convenient

EXAMINATION PAPERS,

Set for Candidates for Provincial Licenses.

JULY, 1890.

ACADEMIC LICENSE (Grade A.)

ALGEBRA.

1. Solve the equations:

$$(1.) \sqrt{x+a} + \sqrt{x} + \sqrt{x-a} = 0.$$

$$(2.) x^{\frac{1}{2}} + x^{-\frac{1}{2}} = \sqrt{5-x^{-2}}$$

$$(3.) 4a^2x = (a^2 - b^2 + x)^2.$$

2. The difference of the roots of a quadratic equation is equal to m and the product of the roots to n . Find the equation.

3. Give general solutions of the following equations, stating what assumption underlies your method.

$$3x + 7y = 250.$$

4. Prove that the sum of n terms of the series 1, 3, 5, 7, etc., is equal to n^2 .

5. Reduce $\frac{\sqrt{x-4} + \sqrt{x-2}}{2\sqrt{x} + 3\sqrt{x-2}}$ to an equivalent fraction with a rational denominator.

6. A vessel is half full of a mixture of wine and water. If filled with wine, the ratio of the quantity of wine to that of water is ten times what it would be if the vessel were filled up with water. Find the ratio of the original quantity of wine to that of water.

GEOMETRY.

1. If from any point in the circumference of a circle circumscribed about a triangle, perpendiculars are drawn to the three sides, the feet of these perpendiculars are in the same straight line.
2. Describe an isosceles triangle having each of the angles at the base double of the third angle.
3. Draw a circle which shall touch one side of a triangle and the other two sides produced.
4. If the vertical angle of a triangle be bisected by a straight line which cuts the base, the segments of the base shall have to one another the same ratio as the remaining sides of the triangle. Also state and prove the converse.
5. To draw a straight line perpendicular to a given plane, from a given point without it.
6. If a straight line touch a circle, and from the point of contact a chord be drawn, the angles which this chord makes with the tangent shall be equal to the angles in the alternate segments of the circle.
7. Shew that the area of a regular hexagon inscribed in a circle is three-fourths of that of the corresponding circumscribed hexagon.

SCHOOL SYSTEM AND SCHOOL MANAGEMENT.

1. Explain the constitution of the Board of School Commissioners—(a) for the City of Halifax; (b) for an incorporated town.
2. State the conditions under which (1) a Grade A teacher can claim a special Provincial grant; (2) the grant for Agricultural Schools can be drawn.
3. "Any sum required by any section over and above the sums provided by the Province and Municipality for the support and maintenance of a public school or schools during the ensuing year shall be a charge on the section, and shall be levied as follows." Complete this statement.
4. Define the term *class* as used in connection with school work, and state as fully as you can the principles underlying successful class management.
5. (1) Give a summary of the contents of Roger Ascham's "Scholemaster." (2) Briefly outline Milton's notions of education.

TEACHING.

1. Give your views as to the position which manual training (the extent of this term to be carefully defined) should occupy in school work.
2. Write for appropriate classes notes of lessons illustrating (a) the governing powers of prepositions in English, Latin, and Greek respectively; (b) the method of "completing the square."
3. Explain the difference between the inductive and deductive methods of teaching. Show clearly that both methods may be used in connection with the same subject.
4. What importance do you attach to the training of the imagination? Specify the principles by which you would be guided in seeking to accomplish this end.
5. President Elliott affirms: "Much time can be saved in primary and secondary schools by diminishing the number of reviews, and by never aiming at that kind of accuracy of attainment which reviews, followed by examinations, are intended to enforce." Examine this statement. (Special value will be given for a full and discriminating answer to this question.)