The Canada Educational Monthly.

It has been found that this very difficult and important work can be better done by the agency of the churches and in connection with moral training than in any other way. Hence the Government has made grants to the Roman Catholic Church, to the Church of England, to the Presbyterian Church in Canada, and to the Methodist Church, for doing this educational work, and in proportion tothe amount of work done. Those familiar with educational affairs will recognize in the above plan of carrying on educational work and giving aid, the plan which has for years been acted upon in Great Britain and Ireland. To this mode of aid-giving by the Government there are, of, course, objectors. We would not be self-governing Britons if there were not such persons amongst us. Well. friends; what would you have? Show a better way, and we are sure the country will be pleased to adopt it. Meanwhile, this Christian country will continue to instruct the untaught Indians of Canada by the effective aid of our churches and pay them, as best we can, for such good work till you report and the new plan, if found to be better, is adopted. For the Indians, we plead fair, honourable, Christian treatment. As in the past, so, at least, for the future.

"NASCENTE LUNA.

I see a stretch of shining sky Like some fair ocean sunset-lit. Peaceful and wide its spaces lie, And purple shores encompass it. A little slender silver boat Upon its bosom is afloat.

This craft, unstayed by winds or tides; Slips-out-across the twilight bar; Through rosy ripples, soft she glides, Led by a single pilot star: With shadowy sails, and fairy crew, She drifts along the summer blue

She's filled from stem to stern with flowers, And Love, and Hope, and Happiness. Will aught of what she brings be ours? Ah me'l if we could only guess?

She rides elusive and remote, This little slender silver boat. —Frances Wynne, in the Spectator.

SCHOOL WORK.

MATHEMATICS.

I.E. MARTIN, B.A., R.M.C., KINGSTON, EDITOR.

(Continued from page 194.) TRIGONOMETRY.

8. (a) Prove that

 $\frac{\sin a + \sin \beta + \sin \gamma - \sin (a + \beta + \gamma)}{\cos a + \cos \beta + \cos \gamma + \cos (a + \beta + \gamma)}$ $= \tan \frac{a + \beta}{2} \tan \frac{\beta + \gamma}{2} \tan \frac{\gamma + \alpha}{2}.$

(b) If l, m, n, are the altitudes of a triangle, drawn from the vertices A, B, C respectively, $a \sin A + b \sin B + c \sin C = 2$ $(l \cos A + m \cos B + n \cos C)$.

$$\stackrel{\text{d}}{=} (a) \frac{\sin \alpha + \sin \beta + \sin \gamma - \sin (\alpha + \beta + \gamma)}{\cos \alpha + \cos \beta + \cos \gamma + \cos (\alpha + \beta + \gamma)}$$

$$= \frac{2 \sin \frac{a+\beta}{2} \cos \frac{a-\beta}{2} - 2 \sin \frac{a+\beta}{2} \cos \frac{a+\beta+2\gamma}{2}}{2 \cos \frac{a+\beta}{2} \cos \frac{a+\beta}{2} + 2 \cos \frac{a+\beta}{2} \cos \frac{a+\beta+a\gamma}{2}}$$

$$= \frac{2 \sin \frac{a+\beta}{2} \left(\cos \frac{a+\beta}{2} - \cos \frac{a+\beta+2\gamma}{2} \right)}{2 \cos \frac{a+\beta}{2} \left(\cos \frac{a-\beta}{2} + \cos \frac{a+\beta+2\gamma}{2} \right)}$$

$$= \frac{4 \sin \frac{a+\beta}{2} \cdot \sin \frac{a+\gamma}{2} \cdot \sin \frac{\gamma+\beta}{2}}{4 \cos \frac{a+\beta}{2} \cdot \cos \frac{a+\gamma}{2} \cdot \cos \frac{\gamma+\beta}{2}}$$

$$= \tan \frac{a+\beta}{2} \cdot \tan \frac{\gamma+\beta}{2} \cdot \tan \frac{\gamma+a}{2}$$

$$= \tan \frac{a+\beta}{2} \cdot \tan \frac{\gamma+\beta}{2} \cdot \tan \frac{\gamma+a}{2}$$

$$= \tan \frac{a+\beta}{2} \cdot \tan \frac{\gamma+\beta}{2} \cdot \tan \frac{\gamma+a}{2}$$

$$= \cos \beta; m = a \sin C; n = b \sin A.$$
Or $b \sin C; \text{ or } c \sin A, \text{ or } a \sin B.$

$$\therefore 2 \{l \cos A + m \cos \beta + n \cos C\}$$