

every day one meal of meat, a pint of milk and an egg for breakfast. The father was properly ashamed of himself, and at once promised to do what was required; and he has since acted up to his word. Every one who is familiar with even such a city as Toronto knows how troublesome it is to get parents to send their children to either the public or Sunday school. How often he is met with the statement that the children have no shoes or proper clothes to go to school. And not unfrequently it is added that the children must work to have something to eat. It may be the right of a Christian state to see that parents attend to their duty of educating their children—it may, perhaps, be the duty of a Christian state to educate the children, whether the parents be willing or no. But if any one thinks that supplying free school books is going to end the trouble about school attendance, all that need be said at present is that such an one has only begun to wrestle with the question. As giving some informa-

tion on this question we add an extract showing what the experience of the schools in Prussia is, taking the city schools of Berlin as the type: "Formerly the schools furnished books free of charge to children who declared they could not afford to buy them. But it was found that they did not care much about books which they got so easily. They handled them roughly and frequently lost them. When, on the other hand, the books were kept in the class-room, it took much extra time and trouble to collect and distribute them. After a thorough test both methods have been rejected. At present the children own their books, and it has been found that comparatively few parents are actually too poor to buy them, and to meet such extreme cases a few free books are now kept in each school. The children carry their books in knapsacks by means of shoulder-straps. In these they also carry a lunch, which generally consists of bread and butter, and which they eat at ten o'clock."

SCHOOL WORK.

MATHEMATICS.

ARCHIBALD MACMURCHY, M.A., TORONTO.
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(Solutions by I. J. Birchard, Ph.D.)

4. Show that

$$(1) \quad z + y = 0, \text{ if } \frac{x}{b-a} = \frac{y}{c-b} = \frac{z}{b-c}$$

$$(2) \quad \frac{A^2}{a^2} + \frac{B^2}{b^2} + \frac{C^2}{c^2} = \frac{A^2 + B^2 + C^2}{x^2 + y^2 + z^2} \text{ if}$$

$$\frac{A}{x} = \frac{B}{y} = \frac{C}{z} \text{ and } \frac{x^2}{a^2} + \frac{y^2}{b^2} + \frac{z^2}{c^2} = 1.$$

4. (1) Since $\frac{y}{c-b} = \frac{z}{b-c}$, and $\therefore \frac{y+z}{c-b+b-c} = \frac{y+z}{0} = \frac{x}{b-a}$. $\therefore x \times 0 = (y+z)(b-a) = 0$, $\therefore y+z=0$, since $b-a$ is supposed not to be zero.

$$(2) \text{ We have } \frac{A^2}{x^2} = \frac{B^2}{y^2} = \frac{C^2}{z^2} = \frac{A^2 + B^2 + C^2}{x^2 + y^2 + z^2}$$

Now in the equality $\frac{x^2}{a^2} + \frac{y^2}{b^2} + \frac{z^2}{c^2} = 1$,

multiplied the terms in succession by the four equal fractions given, and we get the required result.

5. A and B were travelling on the same road toward Toronto, A at the rate of a miles, B at the rate of b miles per hour. At