

Put it = y^2 , and solve the quadratic in x
 we find $x = \frac{40 + 15\sqrt{3}}{25 + 12\sqrt{3}}$ and $y^2 = \frac{22500}{25 + 12\sqrt{3}}$ $\therefore a = \frac{150}{\sqrt{25 + 12\sqrt{3}}}$
 $= 22.16$ miles.

$\Delta = \frac{1}{2} \sin 30 \cdot 30x(100 - 40x) = 358.4825$ square miles

2. Let x = time till area is maximum.

$\Delta = \frac{1}{2} \sin 30 \cdot 30x(100 - 40x)$.

Now, for the value of x corresponding to maximum value of dexter equate $(25 - 10x) \times 30$ to y , and $x = \frac{1}{4}$.

.. Samson is $100 - 40 \times \frac{1}{4} = 50$ miles from station and Elk $30 \times \frac{1}{4} = 37\frac{1}{2}$ miles.

D. McEACHRAN, Parry Sound.

Solution to equation given by STUDENT, in No. 37, Oct. 15. We give it as furnished and regret it has not been worked out in full.

Multiply (2) by x .

Subtract (1) from product.

(2) Multiplied by 2 added to remainder.

Result = $x^2 + 2x - y + 2y^2 = 11x + 15$

$y^2(x + 2) - y = 9x + 15$.

The rest of the work is not necessary.

D. M. CRISHOLM and WM. D. CAMERON,
 Teachers, St. Andrews.

Literary Gossip-Chat.

The *Varsity* comes to us in an attractive form and full of matter well arranged and interesting to all thoughtful readers as well as to the college student. It is a very creditable college paper in every respect save its outlandish name.

Ginn & Co will publish, November 20th, an "Introduction to the Language and Verse of Homer," by Professor Seymour, of Yale College.

Harvard College has commenced to publish a literary monthly, under the direction of five editors, chosen from the senior class.

Harper's Young People for November sustains the reputation of this admirable child's magazine. Its tone is excellent and its literary and artistic workmanship first-class.

Teachers' Associations

PERTH. - The annual meeting was held in the City Hall, Stratford, Oct. 22nd and 23rd; Mr. S. J. Kilpatrick president. About 250 teachers attended, including 75 in training at the Model School. After roll call, the president gave a very practical address, in which he said that criticisms by the Inspector upon the work in the schools of the county would be beneficial. Teachers should note their difficulties and have them discussed in the convention; also, certain educational works might be read during the time between meetings which would afford fertile themes for discussion. Mr. C. W. Chadwick, head master, Stratford Model School, read an interesting paper descriptive of the Quincy Methods, which was discussed by several of the members. Mr. Rothwell, head master of Listowel Public School, thought these methods would not be acceptable in the Public Schools. Children of four or five years should not be in school. There is an idea that children could obtain their knowledge without knowing they were getting it, but he did not believe in it. There was a lot of "Lunicy" in the Quincy methods. A committee consisting of Messrs. Alexander, I.P.S., Hamilton, Shaw, Ryan, and the Misses McGowan and Cameron was appointed to revise the limit table for the Public Schools of the county. On the motion of Mr. Chadwick, the following members were appointed a committee to nominate delegates to the Provincial Association, viz.: - President, Messrs. McNeil, Hamilton, Alexander, and Chadwick. Mr. Alexander read a circular from the Minister of Education desiring that specimens of writing, drawing, map geography, etc., be collected in the schools, to be sent to the forthcoming Colonial Exhibition, London, Eng.

In the afternoon Prof. Tyndall, with a primary class, showed how he taught reading by the phonic method. He was followed by Mr. H. Gordon, a teacher in training, who further exemplified the method. Dr. McLellan gave an address on "The Training of the Language Faculty," which was much appreciated. H. I. Strang, M.A., head master of Goderich High School, took up "English Grammar." His practical views gave his audience some new light in teaching the subject. He thought too much time was lost in routine work, memorizing rules, and in parsing and analysis. He would practise the pupil in expansion of sentences, composition, changing of expression in clauses, paraphrasing prose, direct and indirect narrative, drill on the use of words that are apt to be mistaken for one another, and writing letters. He saw letters from teachers that were badly written, badly addressed, and

badly folded, showing plainly that some teachers do not know how to write a simple letter. Paraphrasing should be taught in connection with the reading lessons. Pupils should select their own themes for composition, and not be forced to write on those given by the teacher; or, the teacher should talk over the subject beforehand. Errors in grammar should be distinguished from errors in composition. Mr. Strang's excellent address called forth a discussion, which was kept up for some time by Messrs. J. M. Moran, A. B. McCallum, M.A., Chadwick, Rothwell, and others.

Next day Dr. McLellan pursued his subject of the previous day, after which Miss Eason, of Stratford, gave an exhibition, with her primary class, of kindergarten—chiefly motion songs. The exercises met with the deserved approbation of the members, and, on the motion of Mr. J. Connelly, Miss Eason received a hearty expression of thanks. Miss Tromanhauser, of Shakespeare, read an essay on "The Teacher and the Schools," for which, on the motion of Mr. McCallum, seconded by Mr. J. M. Levan, she received the thanks of the Association. A well written essay on "Scientific Education" was read by Mr. T. H. Follick, of St. Mary's, in which he urged "the practical in education" as better to fit the pupil for the duties of life. Dr. McLellan then discoursed on "The A, B, C of Fractions." The election of officers for the ensuing year resulted as follows:—President, A. B. McCallum, M.A.; 1st vice-president, Miss Grace McKenzie; 2nd vice-president, Miss Hattie Tromanhauser; secretary-treasurer, Mr. W. Shaw. Resolutions were passed expressing approval of the appointment of Directors of Teachers Institutes and the Training Institutes for High School teachers, and recommending the "post-graduate course" for teachers. The lecture by Dr. McLellan on "Critics (Educational) Criticized," given in the City Hall the second evening of the convention, was largely attended by an appreciative audience. The next convention is to be held in Listowel.

WEST BRUCE. - This convention held its semi-annual meeting in Warton on Thursday and Friday, Oct. 15th and 16th. There was a fair number of teachers present, though owing to the distance, many from the south of the riding were absent. No business was done on Thursday morning.

In the afternoon the chair was occupied by Mr. Hicks, vice-president, in the absence of Mr. Munro, the president. The meeting was opened by Mr. Clendenning with prayer. The minutes of the last meeting were read and adopted. An opening address was then given by Mr. Hicks. "How to Spend Friday Afternoon" was then taken up by Mr. McCool. No lessons should be taught, spelling matches, drawing and drill, also recitations, singing, etc., might be taken up instead of the ordinary work. Miss Baird then took up the subject of "Kindergarten Songs" in a practical and interesting manner, and some samples of these songs were given by six of the teachers present. Reports of the delegates, by Mr. Munro, was then read by Mr. McCool. "The Newspaper in School" was then discussed by Messrs. Hicks, Moore, Hutton, Clendenning, Campbell, and others. Mr. Moore gave his method of teaching "the simple rules," during which the teachers present received many useful and practical hints. "How to Secure and Retain Attention" was then shown by Mr. Clendenning. The Inspector's address abounded with practical and useful hints for the teacher.

On Friday morning Mr. Clendenning proceeded with his remarks on "How to Secure and Retain Attention," and was followed by Mr. Moore, who finished his subject, "The Simple Rules," which was discussed by Miss McClure, Rev. H. S. Halliman, Mr. Clendenning, and Mr. Campbell.

On Friday afternoon a motion was made by Mr. Clendenning, seconded by Mr. McGillivray, that the Association aid each teacher of the district taking the *SCHOOL JOURNAL*, *Educational Weekly*, or *Supplement* for the year 1886 to the extent of 60 cents, and the *Educational Monthly* to the extent of 30 cents.—Carried. Miss McClure then read an excellent paper on "Order in School," treating the subject in an able and practical manner. An excellent paper on "Home" was read by M. Hicks, which contained many valuable hints for parents. Mr. Clendenning spoke on prying two-thirds of the fares of the delegates to the Provincial Association, which was declared to be done. Moved by Mr. Moore, seconded by Mr. Freeborne, that the next meeting of this Association be held in Tara.—Carried. Mr. Moore spoke very forcibly on the benefits of uniform promotion examinations. He had seen the working of that system, and the results were very satisfactory. Moved by Miss Jelly, seconded by Mr. Black: That Messrs. Munro and Telford be appointed to arrange with West Bruce about joining in the project of uniform promotion examinations, and also to arrange about a grant from the County Council to defray expenses connected with the introduction of this system.—Carried. The meeting was then adjourned till the evening, when a public entertainment was given for the benefit of the teachers. The entertainment consisted of music, singing, readings, and recitations by some of the residents of the village and by some of the teachers present. Mr. Hicks occupied the chair, and a very enjoyable evening was spent. The names of Miss Cochrane and Mr. Black must be mentioned as having contributed largely to the enjoyment of those present.—*Pat'sy Advocate*.