

But if cultured or not so, and teaching is  
new,  
We'er wise if we teach well what we do  
know,  
And earnestly follow this old maxim so  
true  
That, "Thoroughness with instruction  
should go."

To encourage us on when we meet with re-  
proof,  
Cheering us onward when nigh to des-  
pair,  
Is the thought that we will, in all honor and  
truth,  
Be remembered by the youth in our care  
And in city or country, wherever we are,

And no matter what be our position,  
Be our hearts but in tune, and our ~~ways~~  
*above par*,  
Gladly received will be our instructions.

Not all can be noted, but all can be ~~noble~~.  
For our work's the same—the ~~noblest~~,  
the best,—  
And if *truly* we teach the best we are ~~able~~.  
The effort put forth will surely be ~~blest~~.  
Yes, teaching is irksome, or teaching is  
pleasant,  
Just as we are happening to make it ;  
But if we cheerfully teach, our hearts ~~to be~~  
lent,  
To our teaching a pleasure will charm ~~it~~.

### TEACHERS' DESK.

J. C. GLASHAN, ESQ., EDITOR.

Contributors to the 'Desk' will oblige by obser-  
ving the following rules :

1. To send questions for insertion on separate sheets from those containing answers to questions already proposed.
2. To write on one side of the paper.
3. To write their names on every sheet.

#### ANSWERS TO CORRESPONDENTS.

ROBT. DRINNAN, Elmvale. Ere answering you we must first know the object you have in view in your studies. Shall write to you.

E. T. HEWSON, Garnet. You merely solved  $x^2 = 207 \&c.$  The problem cannot be solved by common algebra.

#### ANSWERS TO PROBLEMS.

(105.) Two drains are dug under a Township By-Law. The first to cost \$1,300, whereof A is to contribute \$110, and the second to cost \$450, whereof B is to contribute \$86. The By-Law provides that one-fifth of the principal and the accrued interest on the unpaid part thereof, shall be levied every year to defray the cost. The Debentures are issued 21st May, payable 1st January at 8 per cent., and for four years the contributors pay according to the estimated cost, when it is discovered that the first drain cost \$1169.84 and the second \$486.14. What amount must be levied on A and B during the first year?

(Work only to the nearest cent.)

H. T. SCUDAMORE, Sutherland's Corners.

(106.) Two Lots are assessed to a Drain in the sums of \$76 and \$79. Principal to be paid in six equal Annual Instalments and Interest on unpaid Principal, yearly at 6 per cent. Debentures issued 1st June, payable 5th January. Three years ~~later~~ have been levied, when it is found that the Clerk has inadvertently charged the Lots at \$79 and \$86. What payments must each Lot make during the next two years, so that the mistake may be rectified?

[NOTE.—These are questions actually occurring to me as a Township Auditor.]

DITTO.

Let  $A$  be the estimated cost,  $a$  the actual cost.  $R$  the rate, of increase and debt through accruing of interest from date of issue of debentures to date of first payment,  $R'$  the annual rate of increase thereafter,  $n$  the original number of payments,  $m$  the number of payments still due at time of adjustment, there having therefore been  $n - m$  payments made.

Hence at date of last made payment the amount yet due is by estimate  $\frac{m}{n}A$ , but up to date the accrued value of excess of estimate over actual cost is  $(A - a)R'R^{n-m-1}$ . Hence the amount actually due is

$$\frac{m}{n}A - (A - a)R'R^{n-m-1}$$