Educational Circular.

3	A person being asked what time it was, answered that the time past noon was $\frac{1}{4}$ of the time past midnight. What time was it?
4'	Required the time that \$40.00 must be on interest at 2 per cent. to gain \$8.00?
5	Three men hired a pasture for 60 dollars. A put in 4 oxen, B 3 oxen and C 5 oxen; how much ought each to pay?Ans.
6	Add the $\frac{1}{3}$ and the $\frac{1}{2}$ of $\frac{1}{3}$ of 13

Answers must exhibit the whole-operation.

I. [6] Sept. '77.

6.]

77. ARITHMETIC.

Time, 1 hr. 30 m.

33

- 1 Prove that a number is divisible by nine when the sum of its digits is divisible by nine.
- 2 Multiply 11.3568 by 29.1972 by the abridged method, so as to have four decimal places in the product ; multiply them also by the ordinary method, and by a comparison of the two, line for line, state in a common sense way why the two results are so nearly identical.
- 3 State and prove the rule for reducing a mixed repetend to an equivalent vulgar fraction.
- 4 If two men working 8 hours a day can copy a manuscript in 32 days, in how many days can x men working y hours a day copy it?
- 5 Define a Logarithm. What is the logarithm of 81 to the base 3? Express in the form of an Equation the fact that the logarithm of 81 to the base 10 is 1.908485. What is the use of logarithms?
- 6 Prove that the discount is equal $\frac{\text{Art}}{1+rp}$; and hence solve the following:—The interest on a certain sum is \$180.00 and the discount on the same sum for the same time and at the same rate is \$150.00. Find the sum.
- 7 If the interest on \$A for a year be equal to the discount on \$B for the same time, find the rate of interest.
- 8 Find how many years must elapse before a sum of money trebles itself at $3\frac{1}{2}$ per cent. compound interest, having given log. 10350 = 4.01494 and log. 3 = .47712.
- 9 Prove the formula used in the solution of question 8.