SUPPLEMENT

8. A tradesman marks his goods with two prices, one for cash and the other for credit of 6 mo. What relation should the prices bear to each other, allowing interest at $7\frac{1}{2}\%$? If the credit price of an article be \$33.20, what is the cash price?

9. If \$98 be accepted in present payment of \$128, due some time hence, what should be the proper discount of a bill of \$128 which has only half the time to run i

10. A certain sum ought to have \$20.80 allowed as 8 no. interest on it. But a bill for the same sum due in 8 no. at the same rate should have \$20 only allowed off as discount in consideration of present payment. What is the sum and the rate per cent.?

EQUATION OF PAYMENTS

18. When several sums of money are due from A to B, payable at different times, it is often required to find the time, called the **Equated Time**, at which all may be paid together, without injustice to A or B.

When great exactness is demanded, interest must be added to the sums paid after they are due, and discount subtracted from the sums paid before they are due. But in practice the following Rule is sufficiently accurate :---

Multiply each debt by the number of days (or months) after which it is due. Add the results together. Divide this sum by the sum of the debts. The quotient will be the number of days (or months) in the equated time.

Take the following examples :----

Ex. 1. If \$300 be due from A to B at the end of 5 months, and \$700 at the end of 9 months, when may both sums be paid in a single payment without nufairness to A or to B?

Number of months in equated time = $\frac{300 \times 5 + 700 \times 9}{300 + 700} = \frac{7800}{1000} = 7\frac{4}{5}$;

: the whole amount of the debt should be paid at the end of $7\frac{1}{5}$ ino.

154