# C:\Documents and Settings\Administrator\Desktop\RedDot\TC_ELC_Logo.jpgEarly Repayment: The Rule of 78's

When deciding whether or not to pay off your loan early, you should know the amount of interest you'll save prior to prepayment, because you may be better off investing the funds elsewhere rather than prepaying the loan.

Creditors use tables based on a mathematical formula called the Rule of 78's, or sometimes, "the sum of the digits," to determine how much interest you have paid at any point in a loan. This formula dictates that you pay more interest at the beginning of a loan when you have the use of more of the money and that you pay less and less interest as the debt is reduced. Because all of the payments are the same in size, the part going to pay back the principal increases as the part representing interest decreases. The Truth-In-Lending Act requires that your lender disclose whether or not you are entitled to a rebate of the finance charge if the loan is paid off early.

To calculate the amount of interest attributable to each payment under the Rule of 78's, first, add up all the digits for the number of payments scheduled to be made. For a 12-month loan this would be 1 + 2 + 3 + 4+ ... + 12 = 78. In the first month, before making any payments, you have the use of the entire amount borrowed. You thus pay 12/78 of the total interest in the first payment. In the second month, you pay 11/78; in the third, 10/78; and so on down to the last payment, 1/78. Likewise, the sum of the digits for a four-year (48 month) loan would be 1 + 2 + 3 +...... + 47 + 48 = 1, 176, and you would pay 48/1,176 of the total interest in the first payment, 47/1,176 in the second month, and so on.

To calculate how much interest will be saved by prepayment, you merely sum the digits for the remaining payments and multiply the fraction by the total amount of interest that must be paid on the loan.

You borrowed $3,180 ($3,000 principal plus $180 interest) for 12 months. Your equal monthly payments are, therefore, $265. You want to know how much interest you will save by prepaying after 6 payments. You might guess the saving would be $90 ($180 X 6/12). Good guess, but wrong!. The savings calculated using the Rule of 78's is only $48.46.

Sum the digits: 1+2+3+4+5+6 = 21

$180 x 21/78 = $48.46 interest saved.

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