

# FORMULAS



## CHAPTER 4

# PROMISSORY NOTES

## LESSON 4.1

### **Interest-Bearing Promissory Notes**

Principal x Rate x Time = Interest (PRT=I)

Amount Borrowed + Interest = Total Amount To Repay When Note Is Due

### **Exact Interest Method (Based on 365 days)**

Principal x Rate x Number of Days  $\div$  365 = Interest

Amount Borrowed + Interest = Total Amount To Repay When Note Is Due

### **Ordinary Interest Method (Based on 360 days)**

Principal x Rate x Number of Days  $\div$  360 = Interest

Amount Borrowed + Interest = Total Amount To Repay When Note Is Due

## **Rate of Interest**

Number of Months in Year  $\div$  Number of Months of Loan  $\times$  Interest = Interest for 1 Year

Interest for 1 Year  $\div$  Principal = Rate of Interest

# DISCOUNTED PROMISSORY NOTES

## LESSON 4.2

### **Discounted Promissory Notes**

Principal x Rate x Time = Bank Discount

Principal – Bank Discount = Proceeds

Total Amount Borrowed (Principal) = Amount To Repay Lender At End Of Term

## **True Rate of Interest**

Number of Months in Year  $\div$  Number of Months of Loan = Number of Periods per Year

Bank Discount  $\times$  Number of Periods per Year = Bank Discount for 1 Year

Principal – Interest = Proceeds of Note

Bank Discount for 1 Year  $\div$  Proceeds = True Rate of Interest

# **INTEREST TABLES**

## **LESSON 4.3**

### **Simple Interest Tables**

Amount of Loan  $\div$  100 = Number of 100's in Principal

Number of 100's in Principal  $\times$  Interest from Table = Amount of Interest

WHEN THE NUMBER OF DAYS YOU WANT IS NOT LISTED ON THE TABLE:

1. Find the Interest for the Largest Number of Days you Need on the Table
2. Find the Interest for the Remaining Days
3. Add the Two Amounts Together---THIS IS YOUR INTEREST FROM THE TABLE

**CONTINUE WITH FORMULAS FOR SIMPLE INTEREST**

WHEN THE INTEREST RATE YOU WANT IS NOT LISTED ON THE TABLE:

1. Divide the interest rate by 2
2. Look up the two numbers on the table
3. Add the Two Amounts Together

**CONTINUE WITH FORMULAS FOR SIMPLE INTEREST**

### **Due Dates**

Length of Note – Days Left in Current Month – Days in EACH Month Up to Date of Note = Due Date

### **Days Between Dates**

Number of Days Until End of Month + Days in EACH Month up to the Due Date = Number of Days



# INSTALLMENT LOANS

## Lesson 4.4

### **Installment Price and Finance Charge**

Monthly Payment  $\times$  Number of Months (No. of Payments) = Total Monthly Payments

Total Monthly Payments + Down Payment = Installment Price

Installment Price – Cash Price = Finance Charge

Finance Charge  $\div$  Cash Price = Percent Installment Price is Greater than Cash Price

## **Monthly Installment Payments**

Installment Price – Down Payment = Remainder to Pay

Remainder to Pay  $\div$  Number of Months (Number of Payments) = Monthly Payment

Remainder to Pay  $\div$  Monthly Payment = Number of Months to Pay

## **Installment Loans**

Interest Rate  $\div$  Number of Months per Year = Monthly Interest Rate

Principal  $\times$  Monthly Interest Rate = Monthly Interest

Monthly Payment  $-$  Interest = Amount Applied to Principal

Previous Balance  $-$  Amount Applied to Principal = New Balance

# EARLY LOAN REPAYMENTS (RULE OF 78 LOAN)

## Lesson 4.5

### **Earned and Unearned Finance Charges**

Finance Charge  $\times$  Finance Charge Refund Decimal Rate = Unearned Finance Charge

Finance Charge – Unearned Finance Charge = Earned Finance Charge

## **Early Loan Repayments**

Monthly Payment Amt.  $\times$  Number of Monthly Payments Left = Total Amt. of Remaining Payments

Finance Charge  $\times$  Finance Charge Refund Decimal Rate = Unearned Finance Charge

Total Amount of Remaining Payments – Unearned Finance Charge = Amount Needed to Repay Loan

# ANNUAL PERCENTAGE RATES

## Lesson 4.6

### **Annual Percentage Rate (APR)**

$(\text{Finance Charge} \div \text{Amount Financed}) \times \$100 = \text{Finance Charge per } \$100 \text{ of Amount Financed}$

# **CREDIT CARD COSTS**

## **Lesson 4.7**

### **Cost of Credit Card Use**

Monthly Finance Charge  $\times$  12 = Total Finance Charge for Year

Credit Card Balance  $\times$  Balance Transfer Fee Rate = Balance Transfer Fee

Yearly Finance Charge + Balance Transfer Fee + Membership Fee = Total Yearly Credit Card Cost

# CREDIT CARD FINANCE CHARGES

## Lesson 4.8

### Previous Balance Method

Previous Balance  $\times$  APR (%)  $\div$  12 = Finance Charge

Previous Balance + (Finance Charge + New Purchases + Fees) – (Payments + Credits) = New Balance



## **Adjusted Balance Method**

$\text{Previous Balance} - (\text{Payments} + \text{Credits}) = \text{Adjusted Balance}$

$\text{Adjusted Balance} \times \text{APR} (\%) \div 12 = \text{Finance Charge}$

$\text{Adjusted Balance} + \text{Finance Charge} + \text{New Purchases} + \text{Fees} = \text{New Balance}$

### **Average Daily Balance Method:**

Beginning Balance – (Payments + Credits) + (Purchases + Fees) = Daily Balance

Sum of Daily Balances ÷ Number of Days in Billing Period = Average Daily Balance

Average Daily Balance x APR (%) ÷ 12 = Finance Charge

Beginning Balance – (Payments + Credits) + (Finance Charges + New Purchases + Fees) = New Balance

## **Cash Advances**

Cash Advance  $\times$  Daily Periodic Rate  $\times$  Term of Advance in Days = Interest

Interest + Fees = Finance Charge

Cash Advance + Finance Charge = Payoff Amount