Student _______________ Date _______________

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SECTION 8-1 Single-Payment Loans

A single-payment loan is a loan that you repay with one payment after a specified period of time or term. Ordinary interest is calculated by basing the term on a 360-day year. Exact interest is calculated by basing the term on a 365-day year. The maturity value of the loan is the total amount you repay.

Interest = Principal x Rate x Time

Maturity Value = Principal + Interest Owed

Ordinary = 360
Exact = 365

1. Tao Bergolt's bank granted him a single-payment loan of $4,400 at an interest rate of 12 percent. The term of the loan is 172 days. What is the maturity value of his loan at exact interest? _______________

2. Jane Dimas obtained a single-payment loan of $420 to pay a repair bill. She agreed to repay the loan in 90 days at an interest rate of 12.75 percent ordinary interest. What is the maturity value of her loan? _______________

3. Joyce Stein borrowed $8,460 from Merchants Trust to pay for some merchandise for her dress shop. The loan is for 45 days at 8.75 percent exact interest. What is the maturity value of the loan? _______________

4. Gardening, Inc., borrowed $94,500 at 11.65 percent ordinary interest for 15 days. What is the maturity value? _______________

5. Ruth and Juan Dimas would like to borrow $2,600 for 90 days to pay their real estate tax. State Savings and Loan charges 14.00 percent ordinary interest while Security Bank charges 14.25 percent exact interest.

   a. What is the maturity value of each loan? State _______________

      Security _______________

   b. Where should they borrow the money? _______________

6. Walker Trust charges exact interest, while Farmers and Merchants Bank charges ordinary interest. You plan to borrow $9,000 for 60 days at 9 percent.

   a. What is the cost of interest at each bank? Walker Trust _______________

      Farmers and Merchants _______________

   b. Which bank offers you the better deal? _______________

7. You have a chance to lend $6,500 at 12.65 percent interest for 95 days.

   a. If you charge ordinary interest, how much will you earn? _______________

   b. If you charge exact interest, how much will you earn? _______________

   c. If you were borrowing the money, would you prefer to pay ordinary interest or exact interest? Why?

   ____

   ____

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SECTIONS 8-2, 8-3 Installment Loans and Simple Interest Loans

An installment loan is repaid in several equal payments over a specified amount of time. Usually, you make a down payment to cover a portion of the cash price of the item. The amount you finance is the portion of the cash price that you owe after making the down payment.

Down Payment = Cash Price X Percent down

Amount Financed = Cash Price − Down Payment

Monthly Payment = (Amount of Loan ÷ 100) × Monthly Payment for $100 Loan

Total Amount Repaid = Number of Payments × Monthly Payment

Finance Charge = Total Amount Repaid − Amount Financed

1. Alan Lewis purchased a new computer for his office using the store's installment credit plan. The computer cost $5,991.64. What amount did he finance if he made a 40 percent down payment? ____________

2. Lloyd and Linda Pearl want to remodel the dining room in their house. The estimated cost for the job is $6,890. They pay 30 percent of the cost up front and finance the rest at 15 percent interest for 48 months.

   a. What is the down payment? ____________

   b. What is the amount financed? ____________

   c. What is the monthly payment? ____________

   d. What is the finance charge? ____________

3. The Delgados obtained an installment loan of $12,000 from the credit union to pay for their son's tuition. They obtained the loan at an APR of 10 percent and agreed to repay the loan in 12 months. What is the finance charge?

   ____

4. Ann Nguyen would like an installment loan for $5,000. Her bank will loan her the money at 18 percent for 18 months. Her insurance company will loan her the money at 15 percent for 24 months. Which loan would cost her less?

   ____

MONTHLY PAYMENT ON A $100 LOAN

Term in Months	Annual Percentage Rate			
	10%	12%	15%	18%
6	$17.16	$17.25	$17.40	$17.55
12	8.79	8.88	9.03	9.17
18	6.01	6.10	6.24	6.38
24	4.61	4.71	4.85	4.99
30	3.78	3.87	4.02	4.16
36	3.23	3.32	3.47	3.62
42	2.83	2.93	3.07	3.23
48	2.54	2.63	2.78	2.94

5. You want to borrow $7,500 to buy a used boat. First Century Bank will lend you the money at 15 percent for 12 months. Fidelity Savings and Loan will lend you the money at 10 percent for 24 months.

   a. How much will each loan cost? ____________

   b. Which loan would cost you less? ____________

   c. How much less would it cost? ____________

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SECTIONS 8-4, 8-5 Installment Loans—Allocation of Monthly Payment and Paying Off

Part of each monthly payment is used to pay the interest on the unpaid balance of the loan and the remaining part is used to reduce the balance. To pay off a loan before the end of the term, you must pay the previous balance plus the current month's interest.

Interest = Principal × Rate × Time ← Time = $\frac{1}{12}$

Payment to Principal = Monthly Payment − Interest

New Principal = Previous Principal − Payment to Principal

Final Payment = Previous Balance + Current Month's Interest

1. Ralph Phillips obtained a 12-month, $1,500 loan at 12 percent from his credit union. His monthly payment is $133.20. For the first payment:
   a. What is the interest? ________
   b. What is the payment to principal? ________
   c. What is the new principal? ________

2. Rita Rodriguez obtained a 24-month, $8,500 loan at 8 percent from Tri-County Savings & Loan. Her monthly payment is $384.20. For the first payment:
   a. What is the interest? ________
   b. What is the payment to principal? ________
   c. What is the new principal? ________

3. Complete the repayment schedule for a $2,400 loan at 12 percent for 6 months.

Payment Number	Monthly Payment	Amount for Interest	Payment to Principal	New Principal
1	$ 414.00	$ 24.00	$ 390.00	$ 2,010.00
2	414.00	20.10		
3	414.00			
4	414.00			
5	414.00			
6				

4. Patricia Nichols took out a $4,000 simple interest loan at 12 percent for 12 months. After 5 payments, the balance was $2,392.16. She pays off the loan when the next payment is due.
   a. What is the current month's interest? ________
   b. What is the final payment? ________

5. Chad Roth took out a $9,100 simple interest loan at 10 percent for 36 months. After 27 payments the balance is $2,526.85. He pays off the loan when the next payment is due.
   a. What is the current month's interest? ________
   b. What is the final payment? ________

Student ______ Date ______

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SECTION 8-6 Determining the APR

If you know the number of monthly payments you will make and the finance charge per $100 of the amount financed, you can find the annual percentage rate (APR) of the loan from a table. You can use the APR to compare the relative cost of borrowing money.* If Finance Charge is not given refer to section 8-2/3 formulas

$$\text{Finance Charge per \$100} = \$100 \times \frac{\text{Finance Charge}}{\text{Amount Financed}}$$

Use the APR table below to solve the problems.

	ANNUAL PERCENTAGE RATES										
APR	10.00%	10.25%	10.50%	10.75%	11.00%	11.25%	11.50%	11.75%	12.00%	12.25%	12.50%
Term	Finance Charge per $100 of Amount Financed										
6	$ 2.94	$ 3.01	$ 3.08	$ 3.16	$ 3.23	$ 3.31	$ 3.38	$ 3.45	$ 3.53	$ 3.60	$ 3.68
12	5.50	5.64	5.78	5.92	6.06	6.20	6.34	6.48	6.62	6.76	6.90
18	8.10	8.31	8.52	8.73	8.93	9.14	9.35	9.56	9.77	9.98	10.19
24	10.75	11.02	11.30	11.58	11.86	12.14	12.42	12.70	12.98	13.26	13.54

1. Ruby Crye obtained an installment loan of $3,870 to purchase new furniture. The finance charge is $378.10. She agreed to repay the loan in 18 monthly payments. What is the annual percentage rate? ______

2. Gordon Stewart obtained an installment loan of $10,900 to pay his daughter's tuition. The finance charge is $1,172. He agreed to repay the loan in 24 monthly payments. What is the APR? ______

3. The Gomez family has just purchased a $2,574.54 microcomputer. They made a down payment of $574.54. Through the store's installment plan, they have agreed to pay $121 per month for the next 18 months.

   a. What is the amount financed? ______

   b. What is the finance charge? ______

   c. What is the APR? ______

4. Ellen Andrzejewski purchased the car in the ad. She made a down payment of $775. She financed the remainder at $331.16 per month for 24 months. What is the APR? ______

   > **Used Sedan 4 Dr**
   > #6840–5 speed, alloy wheels, cloth seats, stereo prep,
   > Was $8,925 NOW $7,775

5. You are buying a large screen TV set that costs $964.91. To use the installment plan available at the department store, you must make a down payment of 20 percent and make 12 monthly payments of $68.68 each.

   a. What is the amount financed? ______

   b. What is the finance charge? ______

   c. What is the APR for your loan? ______

