

Taking Out A Loan

It is wise to shop for different loan rates before you apply for a loan at a certain bank or credit union. The Annual Percentage Rate (APR) is the rate of interest you pay for loans and finance plans.

At a bank or a credit union, a loan officer gives you a loan application to fill out. You usually make monthly payments to pay back a loan.

Example 1: You want to borrow \$685 to pay back some debts. The loan officer at a bank tells you that the APR is 13.5%. She also tells you that you will pay off the loan in 12 monthly payments of \$61.34. How much will you need to repay? What is the interest?

Step 1 Multiply to find the amount you repay. $12 \times \$61.34 = \736.08

You will need to repay \$736.08.

Step 2 Subtract to find the interest. $\$736.08 - \$685.00 = \$51.08$

The interest is \$51.08.

Banks and credit unions use rate tables to find out how much interest you will pay. The interest depends on the amount borrowed, the interest rate, and how long you will take to repay the loan.

Example 2: Carlos takes out a \$600 loan for a vacation trip. The APR is 14.5%. He will repay the loan in 9 months. How much interest will he pay? How much will he repay each month?

INTEREST PER \$100

Month	14.5 % APR
3	\$2.426
6	\$4.315
9	\$6.138
12	\$8.027
15	\$9.937

THINK: Look across from 9 months in the table to find the interest rate per \$100, or \$6.138.

Step 1 Divide to find the number of \$100 that Carlos is borrowing. $\$600 \div \$100 = 6$

Step 2 Multiply to find the interest. $6 \times \$6.138 = \36.828

Carlos will pay \$36.83 in interest.

Step 3 Add to find the total amount he will repay. $\$600 + \$36.83 = \$636.83$

Step 4 Divide to find the monthly payment. $\$636.83 \div 9 = \70.758888

Carlos will repay \$70.76 per month for 9 months.

Banks also use tables to find monthly payments.

Example 3: Victoria got a \$7,000 loan to buy a motorcycle. How much will she pay each month for a 10-year loan at $12\frac{1}{4}\%$? How much interest will she pay?

THINK: Look across from 10 years under $12\frac{1}{4}\%$ to find the monthly payment for each \$100 borrowed, or \$1.499.

MONTHLY PAYMENT PER \$100 FINANCED

Years	APR		
	$10\frac{1}{2}\%$	$12\frac{1}{4}\%$	$13\frac{1}{2}\%$
5	2.149	2.237	2.301
10	1.349	1.499	1.523
15	1.105	1.216	1.295

Step 1 Step 1: Divide to find the number of \$100. $\$7,000 \div \$100 = 70$

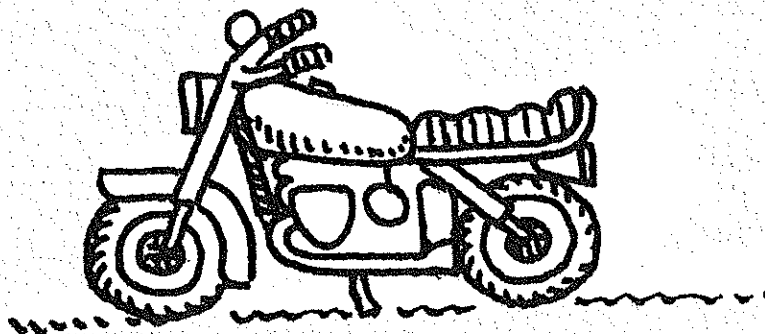
Step 2 Multiply to find the payment. $70 \times \$1.499 = \104.93

Victoria will pay \$104.93 per month.

Step 3 Multiply to find the total amount to be repaid.
 THINK: $10 \text{ y} = 10 \times 12 \text{ mo} = 120 \text{ mo}$ $120 \times \$104.93 = \$12,591.60$

Step 4 Subtract to find the interest. $\$12,591.60 - \$7,000 = \$5,591.60$

Victoria will pay \$5,591.60 in interest.



Think About It

1. A home equity loan is a **secured loan**, since the value of your home guarantees payment. Would the interest rate on a secured loan usually be more or less than the interest rate on an unsecured loan? Why?

Practice

Remember to estimate whenever you use your calculator.
Find the total amount to be repaid and the interest.

	Amount borrowed	Monthly payment	Number of payments	Amount to be repaid	Interest
1.	\$385	\$67.31	6	_____	_____
2.	\$809	\$96.08	9	_____	_____
3.	\$580	\$52.27	12	_____	_____
4.	\$1,200	\$75.41	18	_____	_____
5.	\$1,385	\$104.17	15	_____	_____
6.	\$239	\$82.13	3	_____	_____

Name _____ Date _____

Find the interest and the monthly payment.

INTEREST PER \$100

Months	13.5% APR	17.6% APR
3	2.258	2.945
6	3.974	5.192
9	5.705	7.469
12	7.462	9.788
15	9.235	12.131
18	11.026	14.508

Amount Borrowed	APR	Months	Interest	Monthly Payment
\$500	13.5%	6	7. _____	8. _____
\$750	17.6%	9	9. _____	10. _____
\$186	13.5%	3	11. _____	12. _____
\$918	13.5%	12	13. _____	14. _____
\$1,020	17.6%	12	15. _____	16. _____
\$1,860	13.5%	18	17. _____	18. _____
\$1,238	17.6%	15	19. _____	20. _____
\$908.86	17.6%	18	21. _____	22. _____
\$1,087.95	13.5%	15	23. _____	24. _____
\$397.85	17.6%	9	25. _____	26. _____

Find the monthly payment and the interest.

MONTHLY PAYMENT PER \$100 FINANCED

APR			
Years	11½%	13¼%	15½%
5	2.199	2.288	2.405
10	1.406	1.508	1.644
15	1.168	1.282	1.433

Amount Borrowed	APR	Years	Monthly Payment	Interest
\$6,000	13¼%	5	27. _____ ;	_____
\$8,200	11½%	10	28. _____ ;	_____
\$9,350	15½%	15	29. _____ ;	_____
\$8,725	11½%	10	30. _____ ;	_____
\$11,300	13¼%	5	31. _____ ;	_____
\$9,890	11½%	15	32. _____ ;	_____
\$13,290	15½%	15	33. _____ ;	_____
\$6,780	15½%	10	34. _____ ;	_____
\$18,535	13¼%	5	35. _____ ;	_____
\$23,265	11½%	15	36. _____ ;	_____

Find the minimum payment.

37. Kim borrowed \$18,565 for 15 years. How much more would her monthly payments have been if the APR were 15½% instead of 13¼%?

38. David borrowed \$13,675 for 5 years. How much more would he have repaid if the APR were 15½% instead of 11½%?

Name _____ Date _____

Remember to estimate whenever you use your calculator.

Find the total amount to be repaid and the interest.

Amount borrowed	Monthly payment	Number of payments	Total amount to be repaid	Interest
\$475	\$98.36	5	1. _____	2. _____
\$620	\$109.53	6	3. _____	4. _____
\$785	\$92.78	9	5. _____	6. _____
\$1,860	\$120.38	18	7. _____	8. _____

Use the monthly payment rate table on page 99 to find the interest and the monthly payment.

Amount borrowed	APR	Months	Interest	Monthly payment
\$400	17.6%	3	9. _____	10. _____
\$680	13.5%	9	11. _____	12. _____
\$375	13.5%	6	13. _____	14. _____
\$643	17.6%	12	15. _____	16. _____
\$964	13.5%	18	17. _____	18. _____

Use the monthly payment rate table on page 100 to find the monthly payment and the interest.

Amount borrowed	APR	Years	Monthly payment	Interest
\$5,000	$15\frac{1}{2}\%$	10	19. _____	20. _____
\$7,500	$13\frac{1}{4}\%$	5	21. _____	22. _____
\$6,255	$11\frac{1}{2}\%$	15	23. _____	24. _____
\$10,120	$13\frac{1}{4}\%$	10	25. _____	26. _____
\$9,304	$15\frac{1}{2}\%$	5	27. _____	28. _____

Solve.

29. Vicky borrowed \$23,630.00 for 5 y. How much more would her monthly payments have been if the APR were $13\frac{1}{4}\%$ of $11\frac{1}{2}\%$?

30. Geraldo borrowed \$9,935.00 for 10 years. How much less would he have repaid if the APR were $11\frac{1}{2}\%$ instead of $15\frac{1}{2}\%$?

Taking Out a Loan

7. \$4.87
8. \$9.99
9. \$14.53
10. \$7.97
11. \$28.47

Pages 93–95

Think About It

1. The sum of the daily balances was \$3,786.

Practice

1. \$1.53
2. \$1.69
3. \$1.90
4. \$1.53
5. \$1.14
6. \$1.72; \$3,846.72
7. \$3.88; \$7,089.88
8. \$5.25; \$800.25
9. \$14.07; \$754.07
10. \$27.26; \$2,163.15
11. \$4.16; \$278.27
12. \$0.93
13. \$1.62
14. \$1.63
15. \$1.40
16. \$2.24
17. \$1.91
18. \$3.02
19. \$3.07
20. \$3.99
21. \$1.73
22. \$2.48; \$4,762.48
23. \$2.80; \$6,015.35
24. \$0.31; \$589.31
25. \$0.38; \$763.38
26. \$9.27; \$1,351.47
27. \$16.26; \$641.26
28. \$14.16; \$1,920.26
29. \$11.80; \$341.05
30. \$9.13; \$708.13
31. \$9.17; \$309.17

Pages 98–101

Think About It

1. Interest rates for secured loans are usually less. The bank takes less risk with a secured loan because it has something that it can repossess, if necessary, and sell, to get at least some of its capital back.

Practice

1. \$403.86; \$18.86
2. \$864.72; \$55.72
3. \$627.24; \$47.24
4. \$1,357.38; \$157.38
5. \$1,562.55; \$177.55
6. \$246.39; \$7.39
7. \$19.87
8. \$86.65
9. \$56.02
10. \$89.56
11. \$4.20
12. \$63.40
13. \$68.50
14. \$82.21
15. \$99.84
16. \$93.32
17. \$205.08
18. \$114.73
19. \$150.18
20. \$92.55
21. \$131.86
22. \$57.82
23. \$100.47
24. \$79.23
25. \$29.72
26. \$47.51
27. \$2,236.80; \$137.28
28. \$5,634.80; \$115.29
29. \$14,768.20; \$133.99
30. \$5,995.40; \$122.67

31. \$4,212.40; \$258.54
32. \$10,903.60; \$115.52
33. \$20,991.00; \$190.45
34. \$6,595.20; \$111.46
35. \$6,909.80; \$424.08
36. \$25,648.20; \$271.74
37. \$28.04
38. \$1,690.20 or \$1,690.23, depending on method used

Practice

1. \$491.80
2. \$16.80
3. \$657.18
4. \$37.18
5. \$835.02
6. \$50.02
7. \$2,166.84
8. \$306.84
9. \$11.78
10. \$137.26
11. \$38.79
12. \$79.87
13. \$14.90
14. \$64.98
15. \$62.94
16. \$58.83
17. \$106.29
18. \$59.46
19. \$82.20
20. \$4,864
21. \$171.60
22. \$2,796
23. \$73.06
24. \$6,895.80
25. \$152.61
26. \$8,193.20
27. \$223.76
28. \$4,121.60
29. \$21.03 more
30. \$2,837.44 less

