Examples 4.4

Example 1

Frank lost his credit card in a local mall. He notified his creditor before the card was used. However, later in the day, someone found the card and charged $700 worth of hockey equipment on it. How much is Frank responsible for paying?

SOLUTION By the Truth in Lending Act, Frank is responsible for zero dollars, because he reported it lost before it was used.

Example 2

Credit card companies issue a monthly statement, therefore APR (annual percentage rate) must be converted to a monthly percentage rate. If the APR is 21.6%, what is the monthly interest rate?

SOLUTION To change to a monthly interest rate, divide the APR by 12.

21.6 ÷ 12 = 1.8

The monthly APR is 1.8%. This is the percent that will be used to compute the monthly finance charge.

Example 3

Rebecca did not pay last month's credit card bill in full. Below a list of Rebecca's daily balances for her last billing cycle.

For seven days she owed $456.11.

For three days she owed $1,177.60.

For six days she owed $990.08.

For nine days she owed $2,115.15.

For five days she owed $2,309.13.

Find Rebecca's average daily balance.

SOLUTION The average daily balance is an arithmetic average. The arithmetic average is also called the *mean* . To find this average, you add the balances for the entire billing period, and divide by the number of days.

Add the number of days in the list to find the number of days in the cycle.

7 + 3 + 6 + 9 + 5 = 30

There were 30 days in Rebecca's billing cycle.

To find the sum of the daily balances, multiply the number of days by the amount owed. Then add these products.

$$
\begin{array}{rl}
7(456.11) = & 3{,}192.77 \\
3(1{,}177.60) = & 3{,}532.80 \\
6(990.08) = & 5{,}940.48 \\
9(2{,}115.15) = & 19{,}036.35 \\
5(2{,}309.13) = & 11{,}545.65 \\
\hline
\text{Total} & 43{,}248.05
\end{array}
$$

Divide the total by 30, and round to the nearest cent.

$43{,}248.05 \div 30 \approx 1{,}441.60$

The average daily balance is $1,441.60.

Example 4

Rebecca (from Example 3) pays a finance charge on her average daily balance of $1,441.60. Her APR is 18%. What is her finance charge for this billing cycle?

SOLUTION Finance charges are computed monthly, so the 18% APR must be divided by 12 to get a monthly percentage rate of 1.5%. Take 1.5% of the average daily balance to get the finance charge.
Change 1.5% to an equivalent decimal, multiply, and round to the nearest cent.

$0.015(1{,}441.60) \approx 21.62$

The finance charge is $21.62.