LIFEPAC®

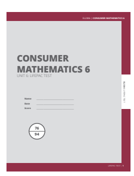
ELECTIVE

STUDENT BOOK

Consumer Math | Unit 6

AOP

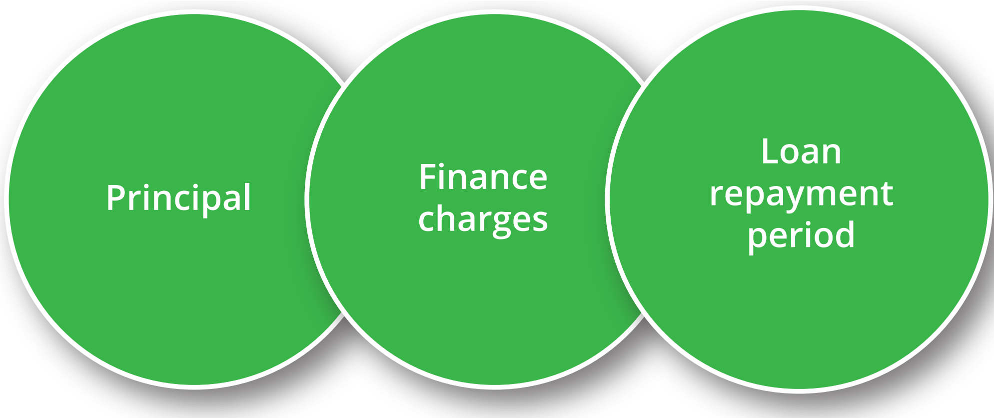
CONSUMER MATHEMATICS 6
CONSUMER LENDING



LIFEPAC Test is located at the back of the booklet. Please remove before starting the unit.

REPAYING A LOAN

After obtaining a loan, the borrower must make payments each month to pay back the loan. The type of loan will determine how much is paid each month. The three parts of the loan that determine how much is paid are principal, finance charges, and **loan repayment period**.



Principal. The principal is the original loan amount, or in other words, the amount of money the borrower originally needed. Of course, the larger the loan, the greater the monthly payments. The total cost to repay the loan will also be greater.

Let's take a look at the following table to see how the amount of principal affects the total cost of the loan.

Principal		
	Loan 1	**Loan 2**
Principal	$5,000	$6,000
Interest Rate	6.47 percent	6.47 percent
Monthly Payment	$98	$117
Loan Repayment Period	5 years	5 years
Total Loan Cost	$5,866	$7,039

Notice that even with the same interest rate and loan repayment period, the monthly payment is higher for Loan 2. You may also notice that $866 is paid in interest for Loan 1 and $1,039 is paid in interest for Loan 2.

Also note in this example that only the interest rate was used, not all of the possible finance charges. However, finance charges also include fees and service charges. Here are some examples of fees:

- **Credit report fees**—This is the fee paid to cover the cost of obtaining a credit report.
- **Appraisal fee**—This is the fee paid to an appraiser who provides a value for the item being purchased, such as a house.
- **Loan application fee**—This is the fee paid to process the paperwork to see if an individual is accepted for the loan. Sometimes this includes the credit report fee and appraisal fee.
- **Lock-in fee**—This is a fee to hold a low interest rate while the lender reviews the application.
- **Loan origination fees**—These are fees that cover the processing of a mortgage.

Loan Repayment Period. The loan repayment period is a certain amount of time the borrower takes to repay the loan. It may be five years, ten years, thirty years, or some amount in between. The longer the repayment period, the higher the total cost of the loan.

Let's look at the following table to see how the loan repayment period affects the total cost of the loan.

Loan Repayment Period

	Loan 1	Loan 2
Principal	$5,000	$5,000
Interest Rate	6.47 percent	6.47 percent
Monthly Payment	$98	$117
Loan Repayment Period	5 years	10 years
Total Loan Cost	$5,866	$6,804

Notice that Loan 1 has a loan repayment period of five years, and Loan 2 has a loan repayment period of ten years. The monthly payment is less for Loan 2, but the total cost of the loan is much higher—almost $1,000 higher. So, the longer the loan repayment period, the more money paid. In addition, typically with a shorter loan repayment period, financial institutions offer lower rates.

As you can see, the finance charges, principal, and loan repayment period all have an effect on the actual cost when money is borrowed.

Write *T* for True or *F* for False.

1.6 ____________ If the principal on one loan is $1,000 more than another loan, the total cost of the loan is $1,000 more.

1.7 ____________ Finance charges can include fees, service charges, and interest.

1.8 ____________ The principal is the original loan amount plus interest.

1.9 ____________ The Truth in Lending Disclosure will show all details about the terms of a loan.

1.10 ____________ Typically, lenders will offer lower interest rates for loans with shorter repayment periods.

Calculating monthly payments and the total cost of the loan. In the previous examples, the total cost of the loan and the monthly payments were calculated for you. To make this calculation yourself, you can find an online loan calculator, use a spreadsheet, or use a formula.

Here is the formula to calculate the monthly payment.

$$\textbf{Monthly Payment} = \frac{rP}{(1-(1+r)^{-n})}$$

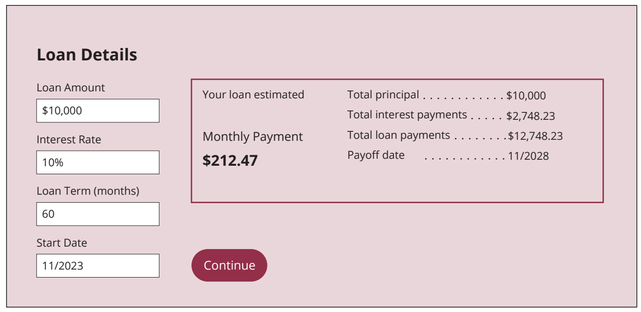
In which:

P = principal, the initial amount of the loan

r = monthly interest in decimal form, or APR / 12

n = loan period in number of months

As you can see from the complexity of the formulas, using a spreadsheet or online calculator will help when making these calculations. Here is an example of what an online loan payment calculator looks like. It's necessary to enter the loan amount or principal, the term in years or months, the interest rate, and the start date into the text boxes and click "continue." At that point, the calculator provides the amount of the monthly payment, as shown.



If you want to determine the total cost of the loan, multiply your monthly payment times the number of months you are paying. For this loan:

Total Cost = ($212.47)(60) = $12,748.23

This loan would have earned $2,748.23 in interest.

EXAMPLE

Emily took out a loan for $10,000 to be repaid back over 5 years. The APR is 8%. Determine Emily's monthly payment.

To find r, divide 8% by 12.

$r = \frac{.08}{12} = 0.00667$

Monthly Payment = $\frac{rP}{(1-(1+r)t^{-n})}$

Monthly Payment = $\frac{(0.00667)(10{,}000)}{(1-)1+0.00667)^{-60}}$

Monthly Payment = $202.79

Determine the total cost of Emily's loan.

Total Cost = (202.79)(60)

Total Cost = $12,167

Since this is also a complicated formula, most people use a spreadsheet or online calculator. Don't worry! You won't be asked to make this calculation.

Complete these activities.

1.11 Ramon took out a car loan with an interest rate of 10 percent and paid $100 in loan application fees. What term describes the amount of interest Ramon will pay?

a. down payment b. APR c. capital

1.12 Which of the following loans will have a higher total cost?

a. A loan for $5,000 at 3.5% over a loan period of six years.
b. A loan for $5,000 at 3.5% over a loan period of four years.

1.13 In one or two sentences, describe how a person can calculate his monthly payment for a loan.

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APPLYING FOR A LOAN

Remember, if you can avoid taking out a loan, you should. You may be able to forgo a purchase for a while and save for it in advance. If, however, you truly cannot avoid the loan, apply for it by either visiting a loan officer at a financial institution or applying online. If you visit a loan officer, they will ask you to complete a loan application, which may be a document several pages in length, or it may be an online form.

The loan officer will ask for some basic information such as name, address, social security number, employer, and telephone number. Then, when deciding if you'll be approved for the loan, the loan officer will also look at information about **capacity**, **capital**, **character**, and **collateral**. These are considered the four C's of lending. Listed below is a description of each.

» **Capacity**—This is the borrower's ability to make payments based on amount of income and other bills.

» **Capital**—This is your net worth, the value of the cash you have, investments you have, and items you own.

» **Character**—This is how responsible you've been in the past with credit; loan officers use information from your credit report to determine your character.

» **Collateral**—This is a piece of property that a person promises to give the lender if a loan is not paid.

After the loan officer reviews your answers to questions about the four C's, they will recommend approving or denying the loan. The loan officer will also offer you a certain interest rate. Remember, your credit rating influences what rate they will offer. Such officers often offer a high interest rate if the loan is seen as high-risk.

Complete these activities.

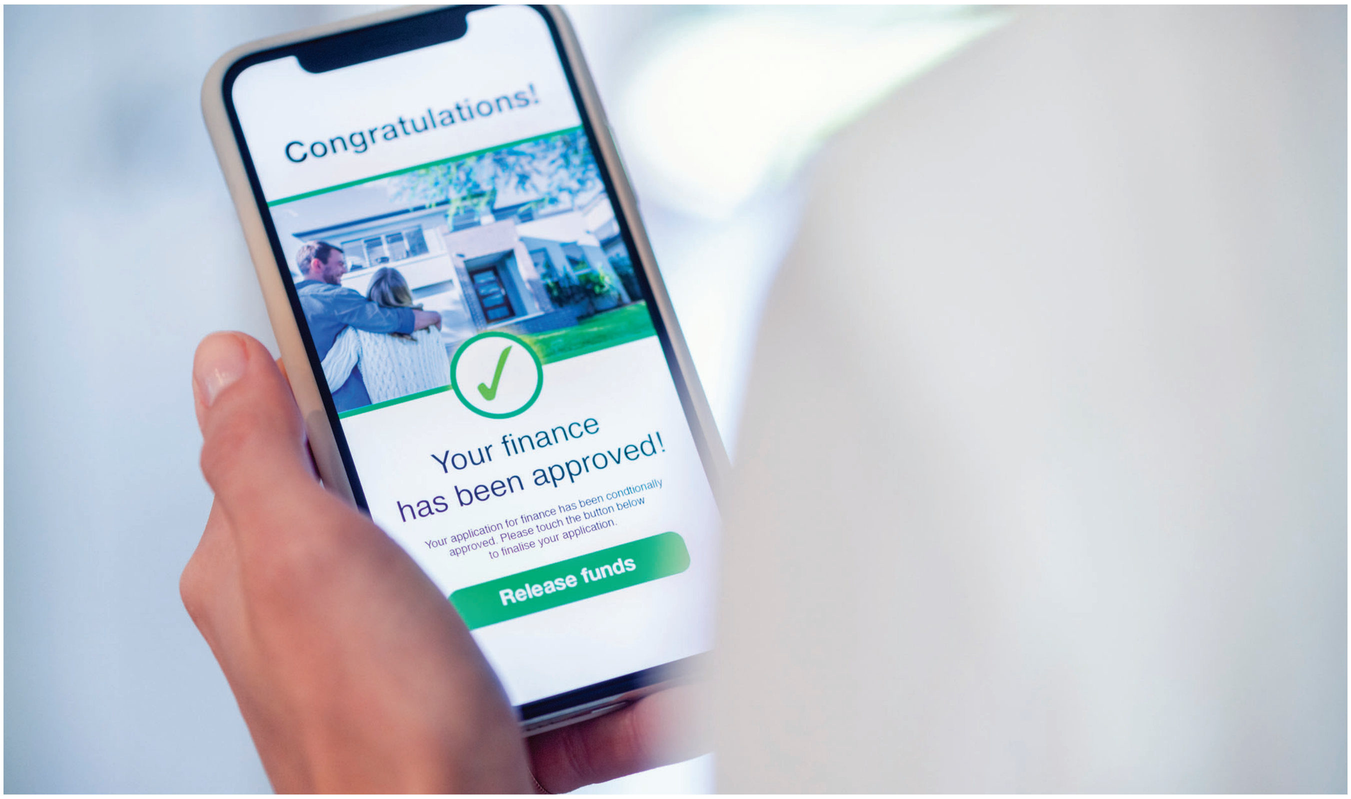
1.14 What are the four C's of lending?

a. capital, cosigner, character, and collateral
b. company, capital, character, and collateral
c. capacity, company, character, and cosigner
d. capacity, capital, character, and collateral

1.15 If you must apply for a loan, you should __________ .

a. visit a loan officer or complete an online application
b. contact a broker and provide certain loan information
c. run a credit report and send it to a loan officer
d. call your credit card company and answer questions over the phone

CHECK ______________ ________________
Teacher Date



LET'S REVIEW!

In this section, you reviewed basic information about loans. Loans cost money. The amount of time it takes to pay off a loan is the loan period. The longer the loan period and the smaller the monthly payment, the more the loan will cost. Loans either have a fixed or variable interest rate, and it's safer to choose a loan with a fixed rate. Also, most loans are either secured or unsecured and are paid in equal installments, or payments, over a certain amount of time.

Review the material in this section in preparation for the Self Test. The Self Test will check your mastery of this particular section. The items missed on this Self Test will indicate specific areas where restudy is needed for mastery.

2. MORTGAGES

It may seem like buying a home is in the distant future, but it takes time to prepare for such an important purchase. Because buying a home is the most expensive purchase you'll probably make, it can often be stressful and exciting! Only a few people can buy a home without a loan. It's great if you can! However, house prices have increased and made it difficult for most families to buy a house without a loan. So, understanding mortgages is a very important first step in making wise financial decisions about buying a home. In this section, you'll learn about mortgages.

Section Objectives

Review these objectives. When you have completed this section, you should be able to:

6. Define key terms associated with mortgages.
7. Identify various types of mortgages.
8. Identify costs associated with mortgages.
9. Calculate a mortgage payment.

Vocabulary

Study these words to enhance your learning success in this section.

ARM	**balloon mortgage**	**FHA loan**
PMI	**VA loan**	

Note: All vocabulary words in this unit appear in **boldface** print the first time they are used. If you are unsure of the meaning when you are reading, study the definitions given.

TYPES OF MORTGAGE LOANS

Mortgage is another way of saying home loan. Homes can be expensive, and therefore a mortgage is a loan for a large sum of money. The payments on the mortgage are also high. So, usually a person just graduating high school or even college cannot afford a mortgage. Before you can afford a home, you need to accumulate savings and build a good credit score. Because mortgages are for a large sum of money, the payments for mortgages are made over a long period of time, usually fifteen to thirty years. Spreading the loan over a longer period of time reduces the monthly payment. Remember, however, that the longer the period, the more money you pay in interest.

You may think that all mortgages are alike. However, to meet the needs of people in different situations, they come in many shapes and sizes. What are some of the differences among mortgages? Here is a list of some:

» **Loan period or term**—There are many different terms, such as fifteen, twenty, or thirty years.

» **Interest rates**—The interest rates may be high or low, fixed, or variable. Some loans start with a fixed rate and then become variable after a certain amount of time, such as two years.

» **Down payment**—Some loans require a smaller down payment than others.

What are some different types of mortgages? Here are a few:

» **Traditional mortgage**—The traditional, or most popular, mortgages have a fixed interest rate and a loan period of thirty years.

» **ARM**—An ARM is an adjustable-rate mortgage. The rate is fixed for a certain amount of time, such as the first six months or two years. Then, the interest rate may increase. The rate adjusts periodically, perhaps every one or two years. For example, one ARM's interest rate may increase up to 2 percent each year and as much as 6 percent over the entire loan period. As you might guess, these types of loans are risky. You may be able to afford the original loan payment of $1,000 per month but add 6 percent to the interest rate and the loan payment each month is now $2,000—a big difference. Before obtaining an ARM, you would want to be confident that you can afford the highest possible payment.

» **Balloon mortgages**—Balloon mortgages have low interest rates. However, the loan term may be as short as five years. When the term is up, the entire balance of the loan is due. Who would want a balloon mortgage? Someone who knows they will keep the loan only for a short time.

» **Government-backed mortgages**—Government loans, such as **FHA** and **VA loans**, make it easier for some people to obtain a mortgage. They require a smaller down payment than traditional mortgages. They allow the individual to have a higher amount of debt and perhaps even borrow the down payment from a family member. For most loans, you are not allowed to borrow the down payment because you will have to pay back the money you borrowed, in addition to the monthly mortgage payment. VA loans are for veterans of the army, navy, air force, or marines.

Now that you've reviewed some different types of mortgages and picked up some new mortgage terms, see if you can figure out what this means:

"A twenty-year mortgage with a fixed interest rate over the life of the loan."

Do you think this describes a mortgage with a term of twenty years and an interest rate that does not change? This is correct. Let's try another.

"A balloon mortgage payable in seven years."

This means the loan will be due in seven years. Also, the balloon mortgage probably has a lower interest rate than a traditional loan.

Write *T* for True or *F* for False.

2.1 ____________ A traditional loan has a variable interest rate.

2.2 ____________ Mortgage loan terms are typically 15 to 30 years.

2.3 ____________ A balloon mortgage typically has a higher interest rate.

2.4 ____________ In an adjustable-rate mortgage, the rate is fixed for a certain period, then may change.

2.5 ____________ FHA and VA loans require smaller down payments than traditional mortgages.

Complete these activities.

2.6 An account with a financial institution used to pay taxes and insurance is called a(n) __________ .

a. balloon loan b. ARM c. escrow account

2.7 A(n) __________ interest rate remains the same throughout the life of the loan.

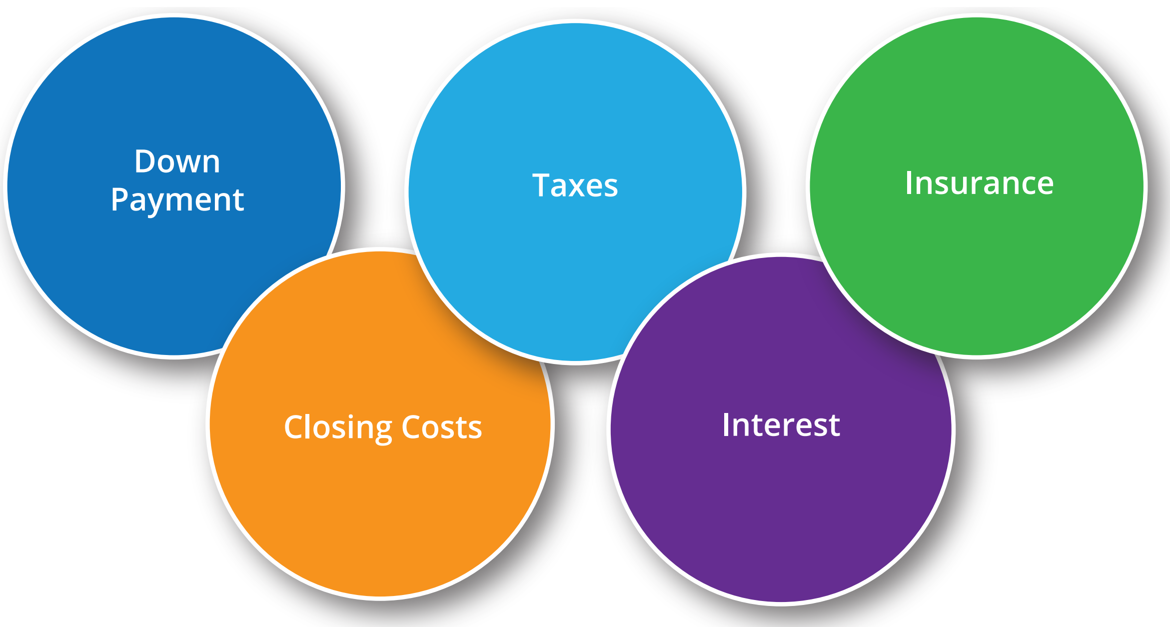
a. fixed b. adjustable c. ARM

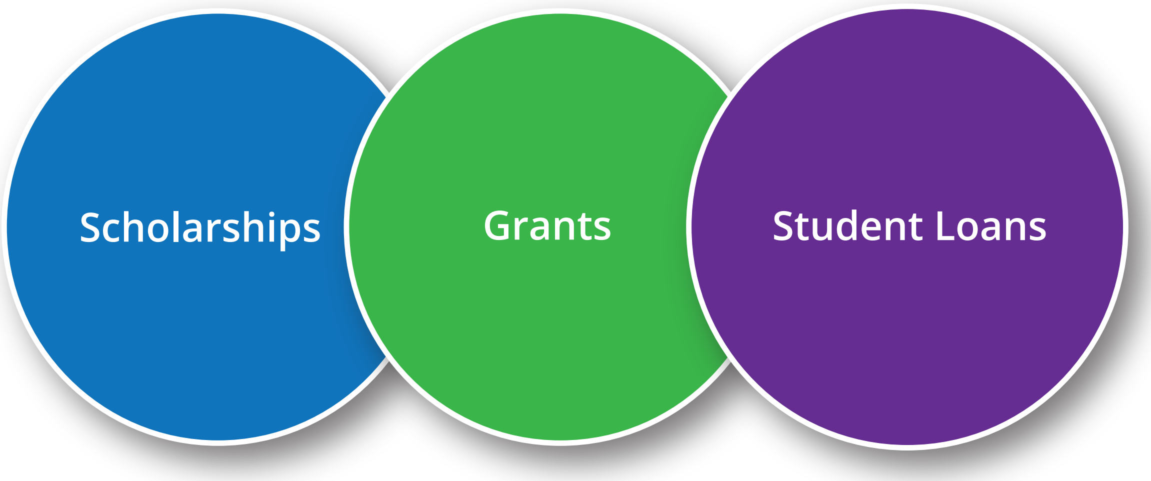
2.8 A(n) __________ loan is for veterans of the army, navy, air force, or marines.

a. FHA b. balloon c. VA

COSTS INVOLVED WITH MORTGAGES

Mortgages, just like other loans, cost money. In addition to paying back the amount of money that was loaned to you, which is called the principal, there are additional costs associated with buying a home. These costs include down payment, closing costs, taxes, interest, and insurance.





Scholarships. Scholarships are awards of money given to students. It's not required to pay money back from a scholarship. Scholarships are often designated for students who fit particular criteria. For example, a scholarship may be awarded to a student who has a special talent in athletics, art, or music. Or one may be awarded to a student with a certain grade point average. In addition, there are scholarships available to students whose parents work for a particular company or to students in a particular organization.

For More Information

Visit the Federal Student Aid website at studentaid.gov to learn more about scholarships, grants, and student loans.

Grants. Grants, like scholarships, do not have to be repaid. They're offered to a variety of students. Here are some different grant programs:

» **Pell Grants**—Pell grants are awarded to students in their first four years of college. Pell Grants pay only a small part of the cost, and usually students obtain additional financial aid. The amount of money you get depends not only on your financial need, but also on your costs to attend school, and your status as a full-time or part-time student.

» **Federal Supplemental Educational Opportunity Grant (FSEOG)**—This program is for students with large financial needs. Through this type of grant, you can receive between $100 and $4,000 per year, depending on when you apply, your financial need, the funding at the school you're attending, and the policies of the financial aid office at your school.

» **Academic Competitiveness Grant**—This award is added to a student's Pell Grant award. It will provide up to $750 for the first year of college and up to $1,300 for the second year. Students in their second year must maintain a grade point average of at least 3.0.

» **National Science and Mathematics Access to Retain Talent Grant (SMART)**—SMART grants are offered only to full-time students in their third and fourth years of college, and they're only offered to students who are also eligible for the Federal Pell Grant and who are majoring in physical, life, or computer sciences, mathematics, technology, engineering, or a foreign language determined critical to national security.

Student Loans. If grants and scholarships are not enough to pay for college, and loans are unavoidable, you can look into federal loan programs or private loans from financial institutions. Student loans help you pay for college, but need to be paid back after you graduate or leave school. Among the many options for loans are the Perkins and Stafford loans for students. Here is a description of each.

- **Perkins Loans**—This loan is for students with large financial needs. It has low interest rates and no fees. You borrow this money through the school, and you can borrow up to $4,000 per year. You are required to start making payments nine months after you graduate or leave school. This amount of time is called the grace period.
- **Stafford Loans**—These are loans with a fixed rate for college students. Stafford loans can be used to pay tuition and other eligible school expenses.

Remember that you must repay student loans, and that this should be a last resort. If you think you need a loan, do your homework, and ask lots of questions before selecting one. Ask about fees, when you'll have to start paying back your loan, the interest rate, and whether you'll have to pay interest while in school. These examples are government loans. Many financial institutions offer private student loans as well, but they often have higher interest rates.

To avoid the debt of student loans, you may also choose one or more of these alternatives:

- Live at home.
- Attend an inexpensive community college for one or two years, and work part time to save money until you can transfer to a four-year school.
- Work and earn money as you go to school.
- Consider the GI Bill; the military offers substantial funding for education in return for military service.
- Consider the Federal Work-Study program (FWS), which, if a student is awarded work-study as part of their financial aid, they can work part-time to earn funds to pay for college.

If you want to obtain any type of financial aid, complete the **FAFSA**, or Free Application for Federal Student Aid. It's the first step in the financial aid process.

When completing the FAFSA, it is a good idea to follow these tips:

- Apply early because they need to be received before the deadline.
- Complete your tax return before you complete the FAFSA because tax information is required.
- Complete the FAFSA online to speed up the process.

For more information about financial aid, call or visit a financial aid office at the college you'll attend.

Complete these activities.

3.14 What is the first step in applying for financial aid?

a. Complete the FAFSA. b. Apply to a college. c. Calculate the cost.

3.15 A __________ may be awarded to a student who has a special talent in athletics, art, or music, or with a certain grade point average.

a. Pell grant b. student loan c. scholarship

3.16 __________ are awarded to students in their first four years of college.

a. Pell grants b. SMART grants c. FSEOGs

3.17 __________ loans are student loans with a fixed rate for college students.

a. Perkins b. Student c. Stafford

3.18 You must complete your __________ before completing the FAFSA.

a. first year of college b. tax return c. work study

3.19 Use the following chart to explain how the loan repayment period affects the total cost of the loan.

Loan Repayment Period

	Loan 1	**Loan 2**
Principal	$5,000	$5,000
Interest Rate	6.47 percent	6.47 percent
Monthly Payment	$98	$57
Loan Repayment Period	5 years	10 years
Total cost of the loan	$5,866	$6,804

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3.20 In two to three sentences, describe at least three things you can do to avoid the debt of student loans.

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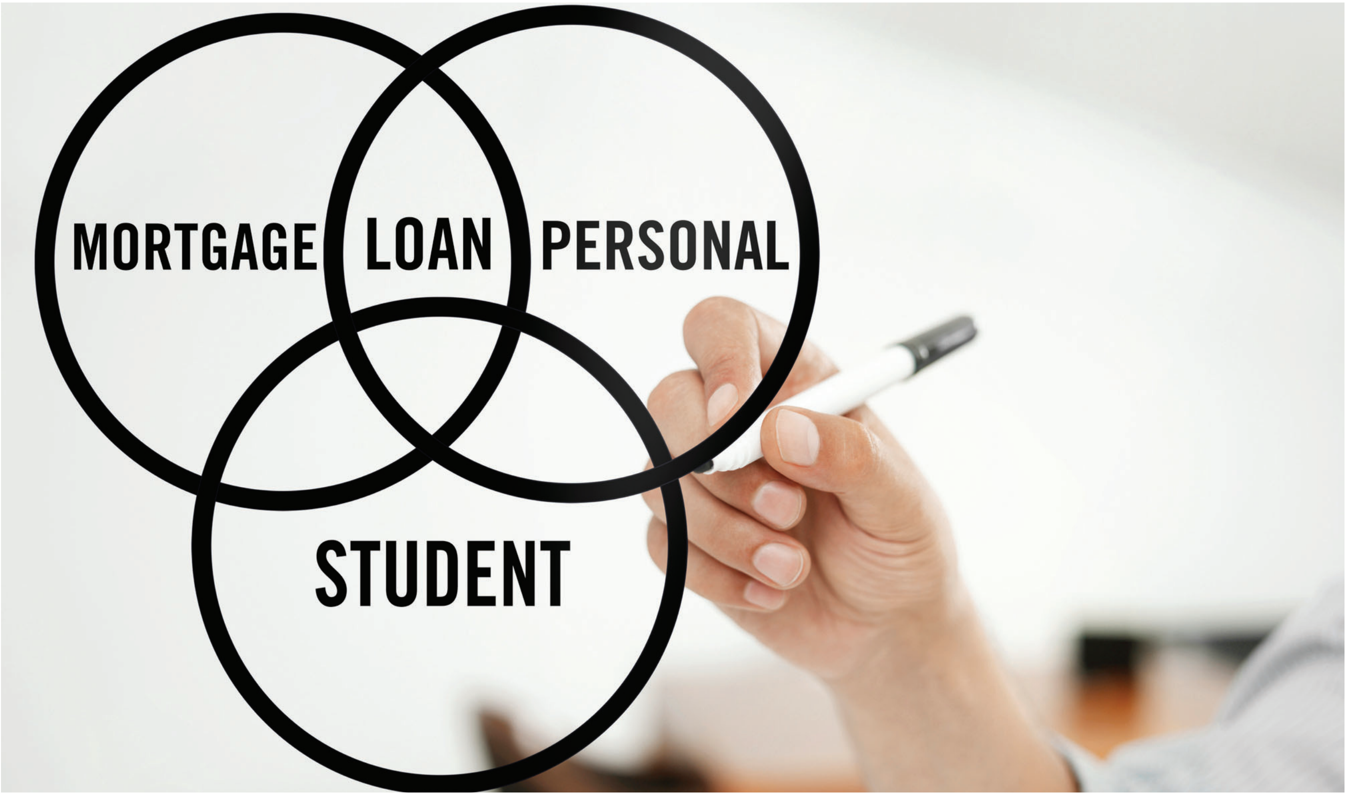

LET'S REVIEW!

There are many types of loans, such as home equity loans, car loans, student loans, personal loans, and small-business loans. Car loans are among the most common types of loans. While you're shopping for a good car price, it's important to shop around for the best loan for your car. The loan period, APR, and principal affect how much you pay for your car.

Scholarships, grants, and student loans are types of financial aid you can obtain to use to pay for the expenses associated with college and vocational schools.

Review the material in this section in preparation for the Self Test. The Self Test will check your mastery of this particular section. The items missed on this Self Test will indicate specific areas where restudy is needed for mastery.

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