Managing Debt

Me,
Myself,
My Money

CTCPA

Managing Debt

Learning Objectives

Lesson 1

Home Ownership: Cribs – How Do I Get Mine?

- Identify the advantages and disadvantages of buying a home and renting a home.
- Explain the terms and conditions of a home mortgage and how they affect monthly mortgage payments and the total cost of a mortgage.
- Identify the characteristics of fixed interest rate mortgages and variable interest rate mortgages and the advantages and disadvantages of each.
- Calculate the equity a homeowner can acquire.

Lesson 2

Auto Loans: Getting Wheels

- Identify the characteristics of a car lease.
- Explain how the cost of a leased car is determined.
- Identify the characteristics of a lease that will increase or decrease the cost of a leased car.
- Identify the operating costs for which a lessee is responsible.

Lesson 3

How to Finance a College Education: Big Expense, Bigger Payoff!

- Explain the difference in the cost of attending a public or state university, a private university, an in-state college, an out-of-state college, and a two-year college.
- Identify the various forms of financial aid available to students – grants, scholarships, loans, and work study – and the means to reduce the cost of college.
- Determine the amount a student must fund toward his or her college education under various scenarios.
- Determine the tuition, room, and board for Connecticut's "state" universities, "out-of-state" public universities, and private universities.

Lesson 4

Managing Your Debt: How Much is Too Much?

- Identify and calculate the ratios used to determine acceptable levels of debt.

Learning Standards (grades 9-12)

Business

Connecticut Department of Education

Business and Finance Technology – Business Management
- Identify factors that affect the choice of credit, the cost of credit, and the legal aspects of using credit.

Cooperative Work Education
- Compare and contrast strategies for personal finance and risk management.

National Business Education Association

Economics & Personal Finance – Using Credit
- Explain why the principal amount, the period of the loan, and the interest rate affect the amount of interest charged.
- Identify strategies for effective debt management.

Economics & Personal Finance – Buying Goods and Services
- Compare the costs and benefits of purchasing, leasing, and renting.

Economics & Personal Finance – Personal Decision Making
- Differentiate between types of decisions and identify those for which a formal decision-making process should be used.
- Apply the decision-making process to various types of decisions at different stages of the life cycle.

Computation – Financial Management
- Apply generally accepted business ratios such as current ratio, debt ratio, and equity ratio to accounting data in order to make decisions.

Computation – Purchases
- Compare the costs of renting, leasing, or purchasing equipment.

Computation – Number Relationships and Operations
- Solve problems that involve whole numbers, decimals, and fractions, and use appropriate conversions.
- Solve problems that involve percents, ratios, averages, and proportions and use appropriate conversions.

Home Ownership:
Cribs – How do I Get Mine?

In order to purchase a home most people will have to apply for and receive a mortgage. A mortgage is a loan – an amount borrowed from a bank, credit union, or other lending institution – that is used to purchase a primary home, such as a house or condominium, or a second home, such as vacation property.

The cost of a mortgage includes the following key terms and conditions:

Principal. The principal is the amount of the mortgage, or the amount borrowed.

Interest Rate. The interest rate is the percentage used to determine the finance charge, or the cost to borrow the money.

Points. Points are prepaid interest that lowers the interest rate on the mortgage.

Fees. Fees are costs paid by the borrower, such as application fees and closing costs.

Most mortgages require monthly or semi-monthly payments over a period of time, such as 15, 20, or 30 years. The length of the mortgage is referred to as the **term** of the mortgage, and the term of the mortgage affects the total cost of the mortgage and thus the actual amount paid for a home. The longer the term of the mortgage, the lower the monthly payments; however, the total cost of the mortgage is greater compared to shorter-term mortgages because interest is paid over a longer period of time.

The interest rate for most mortgages is either **fixed** or **adjustable**. For a "fixed rate mortgage," the interest rate does not change during the term of the loan. The interest rate on an adjustable (or variable) rate mortgage, sometimes called an ARM, for "Adjustable Rate Mortgage," can change over the life of the mortgage, subject to certain limits. For example, the interest rate may increase or decrease two percent a year, up to a total of eight percent over the life of the loan. Fixed rate mortgages generally charge a higher interest rate; however, an adjustable rate mortgage is considered more risky because the purchaser may not be able to afford the mortgage payments when the interest rate increases.

In addition to fixed rate and adjustable rate mortgages, some financial institutions offer **interest-only mortgages**. Whereas each payment on a fixed rate and adjustable rate mortgage consists of principal and interest, payments on an interest-only mortgage consist of interest only. At the end of the mortgage term, the borrower must make a one-time "balloon" payment equal to the principal amount borrowed.

A short-term mortgage that allows for **semi-monthly** payments (as opposed to monthly payments) will reduce the amount of interest paid and thus the total cost of the mortgage. In addition, making an additional payment to the monthly or semi-monthly mortgage payment will reduce the principal balance, which will allow you to repay the loan in a shorter period of time and reduce the total amount of interest paid.

Most home purchases also require a down payment equal to a percentage of the sale price of the home. The cost of a borrowing can also be reduced by making as large a down payment as possible.

An advantage to home ownership is the equity the purchaser typically obtains in the home. Home equity is the difference between the home's market value and the unpaid balance on the mortgage. Equity increases as the mortgage is paid or the market value of the home increases. Home equity can also be used to take out additional loans, which are used for a variety of purposes, such as making home improvements and paying college tuition. In addition, because the interest paid on a mortgage is tax-deductible, homeowners often use a "home equity loan" to pay other debt, such as credit card balances, in which the interest paid is not tax-deductible. However, it is better to not carry credit card debt, and it can be dangerous to rely on home equity loans to finance purchases that do not create or increase the owner's equity.

Activity 1: Rent a Crib or Buy Your Own?

Many people must rent a house, apartment, or condominium before they are able to buy their own home.

Presented below are the advantages of either buying or renting. Indicate whether the advantage applies to buying a home or renting a home.

Advantage ...	Renting or Buying
You don't have to find a buyer if you want to move	
You can deduct mortgage interest and property taxes on your tax return	
You don't need a large amount of cash for a down payment	
You build equity in property, which, if sold, can be turned into a profit	
You are not affected by rent increases	
You can borrow money using your home as collateral	
You can negotiate to have the cost of heat and other utilities included in the monthly payment	
You aren't responsible for repairs and maintenance	

Activity 2: Is "Change" Good?

Many people are faced with the decision to select a variable interest rate mortgage or a fixed rate mortgage.

Presented below are characteristics of fixed rate mortgages and variable rate mortgages. Indicate whether the characteristic applies to a fixed interest rate mortgage or a variable interest rate mortgage, and if it is an advantage or disadvantage.

Characteristic…	Fixed or Variable	Advantage or Disadvantage
The interest rate will not change, therefore the mortgage payment does not change over the life of the mortgage.		
The interest rate can increase, which will increase the mortgage payment as well as the total cost of the home.		
The interest rate can decrease, which will decrease the mortgage payment as well as the total cost of the home.		
The mortgage is considered risky because a home-buyer may not be able to afford the mortgage payment if the interest rate increases.		

Activity 3: Danny's Decision

Danny would like to purchase a home that is selling for $350,000. To finance the balance of the purchase price, Danny is reviewing the terms of different mortgages. The terms of the mortgages include either a fixed interest rate of 6.5% or 5.5%, an option of making payments once per month or twice per month (semi-monthly), a down payment of either 10% or 20%, and a term of either 30 years or 15 years.

Complete this table by indicating the options that would increase or decrease the total amount paid over the term of the mortgage.

	Decrease	Increase
Down Payment		
Mortgage Term		
Interest Rate		
Payment schedule		

In order to reduce the interest paid on the mortgage, Danny is also offered the option of paying "points" at the time the mortgage is obtained. If Danny opts to make a 20% down payment and pay "two points" on the mortgage, what is the dollar amount of the points?

Activity 4: Edith's Equity

An advantage to home ownership is the equity the purchaser can obtain in the home. Home equity is the difference between the home's market value and the unpaid balance on the mortgage.

Assume Edith bought a home for $250,000 by making a $25,000 down payment and obtaining a $225,000 mortgage from the local bank.

1. What is Edith's equity in her home at the time of the purchase? State your answer in terms of a dollar amount ($) and a percentage (%).

Over the years, Edith made mortgage payments that reduced the mortgage from $225,000 to $200,000.

2. What is Edith's equity in her home now? State your answer in terms of a dollar amount ($) and a percentage(%).

As Edith reduced the mortgage on her home from $225,000 to $200,000, assume the market value of Edith's house increased from $250,000 to $300,000.

3. What is the equity Edith has in her home now? State your answer in terms of a dollar amount ($) and a percentage (%).

After learning that the value of her house is $300,000, Edith has decided to sell her home.

4. What is the profit, or loss, and the cash proceeds that Edith would realize if she sold her house for $300,000?

After Edith sold her house, she began shopping for a new home and found one selling for $500,000. Although Edith likes the house, she has some concerns about the selling price because it is TWICE as much as her first house!

5. Explain how Edith can finance the purchase of her new home, assuming she must make a down payment of 10%.

Activity 5: What Goes Up Must Come Down!

Assume Michael bought a home for $400,000 by making a $40,000 down payment and obtaining a $360,000 mortgage from the local bank.

1. What is Michael's equity in his home at the time of the purchase? State your answer in terms of a dollar amount ($) and a percentage (%).

Subsequent to buying his home and obtaining a mortgage, Michael made mortgage payments that reduced the mortgage from $360,000 to $340,000.

2. What is the equity Michael has in his home now? State your answer in terms of a dollar amount ($) and a percentage (%).

Over the next year, Michael made additional payments on his mortgage that reduced the balance to $330,000. However, during the year, the economy went into a recession and the market value of homes declined. As result, the value of Michael's home declined 25%, from $400,000 (the purchase price) to $300,000.

3. What is the equity Michael has in his home now? State your answer in terms of a dollar amount ($) and a percentage (%).

4. If Michael were to sell his house for the current market value, $300,000, what is the profit or loss he would realize, and what amount would he owe the bank, if any?

Auto Loans & Leases:
Getting Wheels

Most people cannot afford to purchase a car outright, so they either purchase a car by obtaining an auto loan or they lease a car.

Similar to other loans, an auto loan includes terms and conditions that state the principal amount of the loan, the interest rate, term, and any fees and penalties. The total cost to purchase a car is the amount paid over the life of the loan, not merely the selling price of the car.

Leasing a Car

A lease is a contract between an individual and a leasing company that requires monthly payments over a period of time, usually three to five years. When a car is leased, the cost of the car is called the **capitalized cost**. The capitalized cost is the difference between the selling price of the car and its residual value, plus a finance charge. The **residual value** is an estimate of the value of the car when the lease expires; it is the amount that must be paid to buy the car at the end of the lease. The finance charge is based on an interest rate and the term of the lease. The capitalized cost of a leased auto is spread over the life of the lease to determine the monthly lease payments.

Lease payments can be lowered by reducing the capitalized cost, and the capitalized cost can be reduced by negotiating a lower sales price, increasing the residual value, or obtaining a lower interest rate. (However, if the residual value is increased, the purchase price at the end of the lease is higher.) Making a down payment and entering into a short-term lease will also reduce the capitalized cost.

The residual value of a leased car is based on an estimate of the number of miles the car will be driven during the lease term. If you exceed the number of miles allowed under the lease agreement, you will be charged a financial penalty – usually on a per-mile basis – when the lease expires. In addition to charges for excessive mileage, other lease costs include charges for excessive wear and tear and charges for “end-of-lease disposition costs.”

Leasing a car has advantages and disadvantages. Leasing allows you to return the original car and lease a new vehicle without bearing the responsibility of selling the “old” car. However, you may have to wait until the end of the lease; you may not be able to return the car before the lease expires without paying a financial penalty. When you lease a car, you are responsible for paying for insurance, registration, gas, tires, and any required maintenance and repairs as if you own the car.

Purchasing a Car

Purchasing a car also has advantages and disadvantages. One advantage of buying a car is that you own the car when the final payment is made. A disadvantage is that the market value of the car generally declines significantly.

Activity 1: Lisa Lessee Hits the Road

Lisa Lessee is considering leasing a new car and is interested in one with a sticker price of $25,000. Lisa negotiated a selling price of $22,000, but was told that the capitalized cost of the car is $23,220, based on the $22,000 selling price, a $2,000 residual value, a five-year lease, and a 6% interest rate. As a result, she would be required to make 60 payments of $387 per month.

Lisa is confused by all the lingo and numbers, and thinks she is paying more than the $22,000 price she negotiated.

1. Explain to Lisa the term "capitalized cost." Include in your explanation a definition of residual value and finance charge.

2. Explain to Lisa how the monthly payments are determined.

3. What can Lisa do to reduce the capitalized cost and the monthly lease payments? Circle the correct answer.
    a. Negotiate a <u>lower / higher</u> selling price.
    b. Negotiate a <u>lower / higher</u> interest rate.
    c. <u>Reduce / increase</u> the amount of the residual value.
    d. Make a <u>smaller / larger</u> down payment.

4. Lisa is considering whether she should try to negotiate a larger residual value. What are the advantages and disadvantages of a larger residual value?

5. What other costs and factors Lisa should consider when negotiating the lease?

How to Finance a College Education:
Big Expense, Bigger Payoff!

College tuition is expensive and continues to increase. In addition, depending on the college or university, the cost can vary widely. For example, the average annual cost of tuition, fees, and room and board at a four-year **public** college or university is $14,333, while the average annual cost at a four-year **private** college or university is $34,132. The average annual cost of tuition at a two-year college is $2,402. The cost of “tuition, fees, and room and board,” however, does *not* include books and supplies, transportation costs, or living expenses.

In Connecticut, the average annual cost of tuition, fees, and room and board at a four-year public college or university is $8,035, while the average annual cost at a four-year private college or university is $31,914 and the average annual cost of tuition at a two-year college is $2,984.

Tuition for public universities (called “state universities”) is generally less expensive compared to private universities because public universities receive funding from the state government, whereas private universities do not.

In general, students who attend a college or university in their state of residence (“in-state students”) pay less. For example, while the average cost to attend a four-year public college or university is $14,333, the average cost for “out-of-state students” is $25,200.

Approximately 55% of students who attended a public four-year college graduated with $18,800 in debt, while 65% of students who attended a private four-year college graduated with $23,800 in debt. The average debt per student attending a public four-year college is $10,500, while the average debt per student attending a private four-year college is $16,400.

Where to Get Financial Help

Student Aid:

Free Application for Federal Student Aid: www.fafsa.ed.gov

National Student Loan Data System: www.nslds.ed.gov

U.S. Department of Education: www.ed.gov

The Financial Aid Information Page: www.flnaid.org

Federal Student Aid: www.studentaid.ed.gov

The SmartStudent Guide to Financial Aid: www.finaid.org

Scholarships:

www.FastWeb.com

www.FindTuition.com

www.Scholarships.com

www.college-scholarships.com

www.collegedata.com

www.careersandcolleges.com

In order to afford the cost of college tuition, many students seek financial aid, such as grants, scholarships, loans, and work study programs. It is important to note that grants, scholarships, and work study programs do not have to be repaid, but loans do.

The **Pell Grant** is a financial aid program funded by the federal government. The amount awarded is based on financial need, a student's Expected Family Contribution (EFC), school costs, and the student's full-time or part-time status. For the 2009-2010 year, the maximum award for a Pell Grant is $5,350. Pell Grants do not have to be repaid. The **EFC** is an estimate the government uses to determine the amount a student and his or her family can afford to contribute toward the annual cost of college. For more information, go to the SmartStudent Guide to Financial Aid [www.finaid.org] and access the EFC calculator.

The **Federal Supplemental Education Opportunity Grant (FSEOG)** is also a financial aid program funded by the federal government. Undergraduate students who have exceptional financial needs – those with the lowest EFCs – are eligible. Pell Grant recipients receive priority for FSEOG awards. Similar to a Pell Grant, an FSEOG does not have to be repaid. FSEOG awards range from $100 to $4,000 a year. The amount of the award is determined by your school's financial aid office.

Perkins Loans are low-interest (5%) loans awarded by colleges and universities to students in financial need. The loan is made with government funding, but the school is the lender. Therefore, students must repay this loan to the school. Undergraduate students are eligible for up to $4,000 per year and a maximum of $20,000. Students must begin to repay Perkins Loans nine months after they graduate or leave school.

Stafford Loans are the most popular and common student loans. The amount you can borrow each year will depend on your year of study: first-year students can borrow up to $5,500, students who have completed one year of study can borrow up to $6,500 per year, and students who have completed two years of study can borrow up to $7,500 per year. **Federal Family Education Loan (FFEL) Stafford Loans** are available from financial institutions, such as a bank, while **Direct Stafford Loans** are available from the U.S. Department of Education.

PLUS Loans are loans parents can apply for to pay for a child's education expenses. The yearly limit on a PLUS Loan is equal to your cost of attending college minus any other financial aid you receive. Plus Loans are available from financial institutions, such as a bank.

Work Study Programs are programs that allow colleges and universities to create campus-based employment programs in which students are paid for their work. Students typically work 10-20 hours per week in a work study program.

Free Application for Federal Student Aid

Students must complete a Free Application for Federal Student Aid (FAFSA) form to be eligible to receive federal financial assistance such as grants, loans, and work study jobs. Students should also receive a Student Aid Report (SAR) that shows a student's FAFSA entries and expected family contribution (EFC).

On average, full-time students at four-year public colleges/universities receive $3,700 per year in aid, while those at private colleges/universities and two-year public colleges receive $10,200 and $2,300, respectively.

College tuition may be expensive, but the benefits can surely outweigh the costs. A college degree provides greater earning power and better benefits in the form of health insurance and retirement plans. For example, a typical full-time worker with a four-year college degree earns 60% more than a full-time worker with only a high school diploma. Those with a master's degree earn almost twice as much as someone with a high school diploma, and those with a professional degree earn over three times as much. The table below presents average earnings according to degree:

Degree	Earnings
Professional degree	$100,000
Doctoral degree	$79,400
Master's degree	$61,300
Bachelor's degree	$50,900
Associate degree	$40,600
High school diploma	$31,500

The typical expected earnings of a four-year college graduate is $800,000 more over the course of a lifetime than the expected earnings of high school graduates. And college graduates with a master's degree, doctoral degree or professional degree can earn over $1,000,000 more than someone with a high school diploma.

In addition, college-educated workers are more likely than others to be offered pension plans and health insurance by their employers.

Sources: Trends in College Pricing, 2008; Trends in Student Aid, 2008; Education Pays, 2007 (The College Board); www.studentaid.ed.gov; www.collegeboard.com/student/pay; www.collegeboard.com/html/costs/pricing

Activity 1: Frank's Finances

Frank graduated from high school and has been accepted at a four-year college where tuition, and room and board is $21,000. For his first year of college, determine (1) the amount that Frank will receive in grants and loans, and (2) the amount that has to be repaid under each scenario below.

Scenario 1

Based on Frank's Expected Family Contribution, he is awarded a Pell Grant and an FSEOG and receives the maximum amount for each. In addition, Frank also applies for a Stafford Loan and a Perkins Loan, and also receives the maximum amounts.

Tuition		$
Grants and Loans:		
	$	
	$	
	$	
	$	
Total Grants and Loans		$
Additional amount needed		$

Amount to be repaid: $___________________

Scenario 2

Based on Frank's Expected Family Contribution, he is not eligible for a Pell Grant or an FSEOG. He is, however, eligible for a Perkins Loan and received the maximum amount. Frank also applied for a Stafford Loan and received the maximum amount.

Tuition		$
Grants and Loans:		
	$	
	$	
	$	
	$	
Total Grants and Loans		$
Additional amount needed		$

Amount to be repaid: $___________________

Scenario 3

Based on Frank's Expected Family Contribution, he is not eligible for a Pell Grant, FSEOG, or a Perkins Loan. He did, however, apply for and receive the maximum Stafford Loan.

Tuition		$
Grants and Loans:		
	$	
	$	
	$	
	$	
Total Grants and Loans		$
Additional amount needed		$

Amount to be repaid: $__________________

Scenario 4

Based on Frank's Expected Family Contribution, assume he is only eligible to receive a Stafford Loan. If Frank applies for a Stafford Loan and receives the maximum amount each of the four years he is in college, determine the additional amount needed each year and the total amount that must be repaid at the end of the four years. Assume tuition, room and board is $21,000 the first year, and increases 5% each year.

	Freshman Year	**Sophomore Year**	**Junior Year**	**Senior Year**	**Total**
Tuition					
Stafford Loan					
Additional amount needed					

Activity 2: Francine's Finances

Francine is accepted at a four-year college and a two-year college. Tuition and room and board at the four-year college is $24,000 per year. Tuition at the two-year college is $2,500 per year. (If Francine attends the two-year college, she will live at home and not have to pay "room and board.")

Francine has determined that she can transfer from the two-year college to the four-year college after two years (if she earns the appropriate number of credits and maintains a minimum grade point average) and graduate with her degree in four years.

Determine the cost of attending college if (1) Francine attends the four-year college all four years; and (2) Francine attends the two-year college and then transfers to the four-year college for her final two years. Assume the cost of tuition at each school increases 5% each year.

What are the cost savings if Francine attends the two-year college and then transfers to the four-year college for her final two years?

	Year 1	**Year 2**	**Year 3**	**Year 4**	**Total**
Francine attends the four-year college all four years					
Francine attends the two-year college, and then transfers to the four-year college					
Difference in cost					

Activity 3: Compare the Cost of College

Select two public universities in Connecticut, two comparable "out-of-state" public universities, and two private universities from any state.

Determine the cost of tuition and room and board at each and compare the differences.

	Connecticut Public University	Out-of-state Public University	Private University
Name of school			
Tuition, room and board			
Name of school			
Tuition, room and board			

Reducing the Cost of College

Here are additional suggestions for reducing the cost of college:

Look for scholarships. Look for listings of scholarships online and in your high school guidance office. Many companies and civic groups award scholarships based on financial need and/or academic merit. Colleges may also offer scholarships as part of their financial aid package.

Take a two-step approach. Lower the cost of your college education by completing your general education requirements at a community college or a less expensive school, and then transfer to your college of choice to complete your degree. Be sure to meet with an admissions officer from the second school before you take your credits at the first school to learn which credits will indeed transfer. Ask the admissions officer at the second school about the guidelines – courses, number of credits, minimum grade point average – for transfer credits.

Earn college credits in high school. Take Advanced Placement courses, or think about taking courses at a local community college.

Earn dual degrees. It may be possible to earn an undergraduate and graduate degree at the same time. Check with your college and ask your guidance counselor about this possibility.

Meet the financial aid officer. Financial aid officers have some discretion in determining who is granted financial aid and the amount they receive. Explain to your financial aid officer any special circumstances that affect your ability to pay for college.

Stay in-state. It may be less expensive to attend a public college and university in Connecticut than to attend a public school in another state, and public colleges and universities in all states are less expensive than private schools. If you want to attend college out-of-state, consider moving a year before starting college and establishing residency – which usually takes one year. You may become eligible for in-state tuition.

Live at home. Living at home saves on the cost of "room and board." To experience living at college, consider living at home while you earn your general education requirements at a community college, and then live on campus when you transfer.

Enroll part-time. You can "pay as you go" by working part-time and attending college part-time. By working part-time – especially in a field you plan to enter after earning your degree – you also build-up your work experience, which can help you land the job you want when you graduate.

Managing Your Debt:
How Much is Too Much?

Managing your debt is a key to your financial security and stability, and the less debt you have, the better your financial position. A financial ratio called the debt-to-income ratio is used to measure the amount of debt you have relative to your income, and is used by banks to determine whether to grant credit, lend money, and grant mortgages.

A general guideline suggests you should spend no more than 20% of your net income (income <u>after</u> taxes) on debt and credit payments, such as credit cards, car loans, and student loans. This guideline, or rule, is known as the "**20% Rule**."

Another guideline, called the "**28/36 Rule**," provides a guideline that suggests you should spend no more than 28% of your monthly gross income on home-related debt – such as your mortgage payment, property taxes, and insurance – and no more than 36% of your monthly gross income on all debt.

Activity 1: Know the Rules!

It is suggested that you spend no more than ________% of your monthly gross income on all debt, including home-related debt, credit card payments, car payments, and student loans.

a. 20%
b. 28%
c. 36%

It is suggested that you spend no more than ________% of your monthly gross income on home-related debt, such as your mortgage payment, property taxes, and insurance.

a. 20%
b. 28%
c. 36%

It is suggested that you spend no more than ________% of your monthly net income on debt and credit payments, such as credit cards, car payments, and student loans.

a. 20%
b. 28%
c. 36%

Activity 2: The 20% Rule

Joe recently graduated from college and accepted a position as a staff accountant with a local CPA firm where his monthly income, after taxes, is $3,000.

As Joe begins his accounting career, he is analyzing the amount of debt he has in order to improve his financial position. Joe estimates that his monthly credit card payments are $150, his car payment is $350, and his student loan payment is $400.

1. Based on Joe's monthly credit card payments and other debt payments, use the table below to determine his monthly debt-to-income ratio and whether he meets the "20% Rule."

2. If Joe does not meet the guideline suggested by the "20% Rule," by what amount must he reduce his monthly credit card payments and other debt payments, and how do you suggest he reduce those payments?

Monthly Debt and Credit Card Payments	
Credit card payments	$
Car payments	$
Student loan payments	$
Total Monthly Debt and Credit Card Payments	$
Monthly Net Income (after Taxes)	$

Monthly Debt-to-Income Ratio = $\dfrac{\text{All monthly credit card payments and other debt payments}}{\text{Net income (income after taxes)}}$

$$= \frac{\$\_\_\_\_\_\_\_\_\_\_\_\_}{\$} = \_\_\_\_\_\%$$

Instructor's Solutions

Lesson 1, Activity 1: Rent a Crib or Buy Your Own?

Many people must rent a house, apartment, or condominium before they are able to buy their own home.

Presented below are the advantages of either buying or renting. Indicate whether the advantage applies to buying a home or renting a home.

Advantage ...	**Renting or Buying**
You don't have to find a buyer if you want to move	**Renting**
You can deduct mortgage interest and property taxes on your tax return	**Buying**
You don't need a large amount of cash for a down payment	**Renting**
You build equity in property, which, if sold, can be turned into a profit	**Buying**
You are not affected by rent increases	**Buying**
You can borrow money using your home as collateral	**Buying**
You can negotiate to have the cost of heat and other utilities included in the monthly payment	**Renting**
You aren't responsible for repairs and maintenance	**Renting**

Lesson 1, Activity 2: Is "Change" Good?

Many people are faced with the decision to select a variable interest rate mortgage or a fixed rate mortgage.

Presented below are characteristics of fixed rate mortgages and variable rate mortgages. Indicate whether the characteristic applies to a fixed interest rate mortgage or a variable interest rate mortgage, and if it is an advantage or disadvantage.

Characteristic…	**Fixed or Variable**	**Advantage or Disadvantage**
The interest rate will not change, therefore the mortgage payment does not change over the life of the mortgage.	**Fixed**	**Advantage**
The interest rate can increase, which will increase the mortgage payment as well as the total cost of the home.	**Variable**	**Disadvantage**
The interest rate can decrease, which will decrease the mortgage payment as well as the total cost of the home.	**Variable**	**Advantage**
The mortgage is considered risky because a home-buyer may not be able to afford the mortgage payment if the interest rate increases.	**Variable**	**Disadvantage**

Activity 3: Danny's Decision

Danny would like to purchase a home that is selling for $350,000. To finance the balance of the purchase price, Danny is reviewing the terms of different mortgages. The terms of the mortgages include either a fixed interest rate of 6.5% or 5.5%, an option of making payments once per month or twice per month (semi-monthly), a down payment of either 10% or 20%, and a term of either 30 years or 15 years.

Complete this table by indicating the options that would increase or decrease the total amount paid over the term of the mortgage.

	Decrease	Increase
Down Payment	**20%**	**10%**
Mortgage Term	**15 years**	**30 years**
Interest Rate	**5.5%**	**6.5%**
Payment Schedule	**Semi-monthly**	**Monthly**

In order to reduce the interest paid on the mortgage, Danny is also offered the option of paying "points" at the time the mortgage is obtained. If Danny opts to make a 20% down payment and pay "two points" on the mortgage, what is the dollar amount of the points?

Points ($) = Mortgage* x Points (%) = $280,000 x 2% = $5,600
***Mortgage = Selling Price – Down Payment** = $350,000 - $70,000 = $280,000**
**** Down payment = Selling Price x 20% = $350,000 x 20% = $70,000**

Lesson 1, Activity 4: Edith's Equity

An advantage to home ownership is the equity the purchaser can obtain in the home. Home equity is the difference between the home's market value and the unpaid balance on the mortgage.

Assume Edith bought a home for $250,000 by making a $25,000 down payment and obtaining a $225,000 mortgage from the local bank.

1. What is Edith's equity in her home at the time of the purchase? State your answer in terms of a dollar amount ($) and a percentage (%).

   $25,000 and 10%. Home equity ($) is the difference between the home's market value and the unpaid balance on the mortgage: $250,000 - $225,000 = $25,000. Owner's equity as a percentage (%) is equal to the home equity, $25,000, divided by the market value, $250,000, or 10%.

Over the years, Edith made mortgage payments that reduced the mortgage from $225,000 to $200,000.

2. What is Edith's equity in her home now? State your answer in terms of a dollar amount ($) and a percentage (%).

   $50,000 and 20%. Home equity is the difference between the home's market value and the unpaid balance on the mortgage: $250,000 - $200,000 = $50,000. Owner's equity as a percentage (%) is equal to the home equity, $50,000, divided by the market value, $250,000, or 20%.

As Edith reduced the mortgage on her home from $225,000 to $200,000, assume the market value of Edith's house increased from $250,000 to $300,000.

3. What is the equity Edith has in her home now? State your answer in terms of a dollar amount ($) and a percentage (%).

   $100,000 and 33%. Home equity is the difference between the home's market value and the unpaid balance on the mortgage: $300,000 - $200,000 = $100,000. Owner's equity as a percentage (%) is equal to the home equity, $100,000, divided by the market value, $300,000, or 33%.

After learning that the value of her house is $300,000, Edith has decided to sell her home.

4. What is the profit, or loss, and the cash proceeds that Edith would realize if she sold her house for $300,000?

   Profit of $50,000 and cash proceeds of $100,000. The profit of $50,000 is equal to the sales price of $300,000, less the original purchase price of $250,000. The cash proceeds of $100,000 is equal to the sales price of $300,000, less $200,000, the remaining balance on the mortgage.

After Edith sold her house, she began shopping for a new home and found one selling for $500,000. Although Edith likes the house, she has some concerns about the price because the selling price is TWICE as much as the first house!

5. Explain how Edith can finance the purchase of her new home, assuming she must make a down payment of 10%.

   Edith needs $50,000 ($500,000 x 10%) to make a down payment, and can do so using all or part of the $100,000 cash proceeds from the sale of her first home. Once Edith determines the amount of the down payment she will make, she will need a mortgage for the difference between the purchase price and the down payment.

Solutions

Lesson 1, Activity 5: What Goes Up Must Come Down!

Assume Michael bought a home for $400,000 by making a $40,000 down payment and obtaining a $360,000 mortgage from the local bank.

1. What is Michael's equity in his home at the time of the purchase? State your answer in terms of a dollar amount ($) and a percentage (%).

   $40,000 and 10%. Home equity ($) is the difference between the home's market value and the unpaid balance on the mortgage, $400,000 - $360,000 = $40,000. Owner's equity as a percentage (%) is equal to the home equity, $40,000, divided by the market value, $400,000, or 10%.

Subsequent to buying his home and obtaining a mortgage, Michael made mortgage payments that reduced the mortgage from $360,000 to $340,000.

2. What is the equity Michael has in his home now? State your answer in terms of a dollar amount ($) and a percentage (%).

   $60,000 and 15%. Home equity is the difference between the home's market value and the unpaid balance on the mortgage, $400,000 - $340,000 = $60,000. Owner's equity as a percentage (%) is equal to the home equity, $60,000, divided by the market value, $400,000, or 15%.

Over the next year, Michael made additional payments on his mortgage that reduced the balance to $330,000. However, during the year, the economy went into a recession and the market value of homes declined. As result, the value of Michael's home declined 25%, from $400,000 (the purchase price) to $300,000.

3. What is the equity Michael has in his home now? State your answer in terms of a dollar amount ($) and a percentage (%).

   A negative $30,000 and negative 10%, or ($30,000) and (10%). Home equity is the difference between the home's market value and the unpaid balance on the mortgage, $300,000 - $330,000 = ($30,000). Owner's equity as a percentage (%) is equal to the home equity, ($30,000), divided by the market value, $300,000, or (10%).

4. If Michael were to sell his house for the current market value, $300,000, what is the profit or loss he would realize, and what amount would he owe the bank, if any?

   Michael would incur a loss of $100,000. (Sales price of $300,000, less the original purchase price, $400,000.) In addition, Michael would owe the bank $330,000, the remaining balance on the mortgage. He would be able to use the proceeds from the sale ($300,000) to pay a portion of the outstanding balance; however, he would still owe the bank $30,000.

SOLUTIONS

Lesson 2, Activity 1: Lisa Lessee Hits the Road

Lisa Lessee is considering leasing a new car and is interested in one with a sticker price of $25,000. Lisa negotiated a selling price of $22,000, but was told that the capitalized cost of the car is $23,220, based on the $22,000 selling price, a $2,000 residual value, a five-year lease, and a 6% interest rate. As a result, she would be required to make 60 payments of $387 per month.

Lisa is confused by all the lingo and numbers, and thinks she is paying more than the $22,000 price she negotiated.

1. Explain to Lisa the term "capitalized cost." Include in your explanation a definition of residual value and finance charge.

   Capitalized cost is the difference between the selling price of the car and its residual value, plus a finance charge. The residual value is an estimate of the value of the car when the lease expires; it is the amount that must be paid to buy the car at the end of the lease. The finance charge is interest that must be paid, based on an interest rate and the term of the lease.

2. Explain to Lisa how the monthly payments are determined.

   The capitalized cost of a leased auto is spread over the life of the lease to determine the monthly lease payments. The capitalized cost is based on paying $20,000 ($22,000 negotiated price – $2,000 residual value) over 5 years (60 payments) at an interest rate of 6%, which amounts to $387 per month: $387/month x 60 payments = $23,220.

3. What can Lisa do to reduce the capitalized cost and the monthly lease payments? Circle the correct answer.
   a. Negotiate a **lower** selling price.
   b. Negotiate a **lower** interest rate.
   c. **Increase** the amount of the residual value.
   d. Make a **larger** down payment.

4. Lisa is considering whether she should try to negotiate a larger residual value. What are the advantages and disadvantages of a larger residual value?

   The advantage of a large residual value is that it reduces the capitalized cost of the car and thus lowers the monthly payments. The disadvantage is that Lisa will be required to pay more for the car if she decides to buy the car at the end of the lease. In addition, since the residual value of a leased car is based on an estimate of the number of miles the car will be driven during the lease term, if Lisa exceeds the number of miles allowed under the lease agreement, she will be charged a financial penalty – usually on a per-mile basis – when the lease expires.

5. What other costs and factors Lisa should consider when negotiating the lease?

   In addition to charges for excessive mileage, other lease costs include charges for excessive wear and tear and charges for "end-of-lease disposition costs." Lisa will also be responsible for paying for insurance, gas, tires, repairs, maintenance, and other expenses, as if she owned the car.

Lesson 3, Activity 1: Frank's Finances

Frank graduated from high school and has been accepted at a four-year college where tuition, and room and board is $21,000. For his first year of college, determine (1) the amount that Frank will receive in grants and loans, and (2) the amount that has to be repaid under each scenario below.

Note to Instructors: Emphasize to students that (1) these scenarios only address the cost of tuition, and room and board; additional costs include books, supplies, transportation costs, and other living expenses, and (2) grants do not have to be repaid, but loans must be repaid.

Scenario 1

Based on Frank's Expected Family Contribution, he is awarded a Pell Grant and an FSEOG and receives the maximum amount for each. In addition, Frank also applies for a Stafford Loan and a Perkins Loan, and also receives the maximum amounts.

Frank receives a total of $18,850 in grants and loans.
To pay the full tuition of $21,000, he will need an additional $2,150.

Tuition		**$21,000**
Grants and Loans:		
Pell Grant	**$5,350**	
FSEOG	**$4,000**	
Perkins Loan	**$4,000**	
Stafford Loan	**$5,500**	
Total Grants and Loans	**$18,850**	
Additional amount needed		**$2,150**

The amount that must be repaid is the total of the two loans (Perkins and Stafford), $9,500.

Scenario 2

Based on Frank's Expected Family Contribution, he is not eligible for a Pell Grant or an FSEOG. He is, however, eligible for a Perkins Loan and received the maximum amount. Frank also applied for a Stafford Loan and received the maximum amount.

Frank receives a total of $9,500 in loans (the Perkins Loan and Stafford Loan).
To pay the full tuition of $21,000, he will need an additional $11,500.

Tuition		**$21,000**
Grants and Loans:		
Pell Grant	**$0**	
FSEOG	**$0**	
Perkins Loan	**$4,000**	
Stafford Loan	**$5,500**	
Total Grants and Loans	**$9,500**	
Additional amount needed		**$11,500**

The amount that must be repaid is the total of the two loans (Perkins and Stafford), $9,500.

SOLUTIONS

Scenario 3

Based on Frank's Expected Family Contribution, he is not eligible for a Pell Grant, FSEOG, or a Perkins Loan. He did, however, apply for and receive the maximum Stafford Loan.

Frank receives a total of $5,500 in loans (only the Stafford Loan).
To pay the full tuition of $21,000, he will need an additional $15,500.

Tuition		$21,000
Grants and Loans:		
Pell Grant	$0	
FSEOG	$0	
Perkins Loan	$0	
Stafford Loan	$5,500	
Total Grants and Loans	$5,500	
Additional amount needed		$15,500

The amount that must be repaid is the Stafford Loan, $5,500.

Scenario 4

Based on Frank's Expected Family Contribution, assume he is only eligible to receive a Stafford Loan. If Frank applies for a Stafford Loan and receives the maximum amount each of the four years he is in college, determine the additional amount needed each year and the total amount that must be repaid at the end of the four years. Assume tuition, room and board is $21,000 the first year, and increases 5% each year.

The additional amount needed each year is: freshman year, $15,500; sophomore year, $15,550; junior year, $15,653; and senior year, $16,810 each year. Therefore, the total additional amount needed is $65,513. *Remind students that while grants do not have to be repaid, loans do!* The total amount that must be repaid at the end of four years is $27,000, the cumulative amount of the Stafford Loans. If a private loan is used to fund the additional amount needed each year, the total amount that must be repaid at the end of four years is $90,513. *And remember that this includes only tuition and room and board.*

	Freshman Year	Sophomore Year	Junior Year	Senior Year	Total
Tuition	$21,000	$22,050	$23,153	$24,310	$90,513
Stafford Loan	$5,500	$6,500	$7,500	$7,500	$27,000
Additional amount needed	$15,500	$15,550	$15,653	$16,810	$63,513

Lesson 3, Activity 2: Francine's Finances

Francine is accepted at a four-year college and a two-year college. Tuition and room and board at the four-year college is $24,000 per year. Tuition at the two-year college is $2,500 per year. (If Francine attends the two-year college, she will live at home and not have to pay "room and board.")

Francine has determined that she can transfer from the two-year college to the four-year college after two years (if she earns the appropriate number of credits and maintains a minimum grade point average) and graduate with her degree in four years.

Determine the cost of attending college if (1) Francine attends the four-year college all four years; and (2) Francine attends the two-year college and then transfers to the four-year college for her final two years. Assume the cost of tuition at each school increases 5% each year.

What are the cost savings if Francine attends the two-year college and then transfers to the four-year college for her final two years?

Explain to students that there are both advantages and disadvantages to each scenario – attending the four-year college for the full four years or attending the two-year college and then transferring – however one major advantage of attending a two-year college and then transferring is a lower total cost for a four-year degree. In this example, the savings is $44,075.

	Year 1	Year 2	Year 3	Year 4	Total
Francine attends the four-year college all four years	**$24,000**	**$25,200**	**$26,460**	**$27,783**	**$103,443**
Francine attends the two-year college, and then transfers to the four-year college	**$2,500**	**$2,625**	**$26,460**	**$27,783**	**$59,368**
Difference in cost	**$21,500**	**$22,575**	**$0**	**$0**	**$44,075**

Lesson 3, Activity 3: Compare the Cost of College

Select two public universities in Connecticut, two comparable "out-of-state" public universities, and two private universities from any state.

Determine the cost of tuition and room and board at each and compare the differences. **Responses will vary.**

	Connecticut Public University	Out-of-state Public University	Private University
Name of school			
Tuition, room and board			
Name of school			
Tuition, room and board			

Lesson 4, Activity 1: Know the Rules!

It is suggested that you spend no more than ________% of your monthly gross income on all debt, including home-related debt, credit card payments, car payments, and student loans.

c. 36%

It is suggested that you spend no more than ________% of your monthly gross income on home-related debt, such as your mortgage payment, property taxes, and insurance.

b. 28%

It is suggested that you spend no more than ________% of your monthly net income on debt and credit payments, such as credit cards, car payments, and student loans.

a. 20%

Activity 2: The 20% Rule

Joe recently graduated from college and accepted a position as a staff accountant with a local CPA firm where his monthly income, after taxes, is $3,000.

As Joe begins his accounting career, he is analyzing the amount of debt he has in order to improve his financial position. Joe estimates that his monthly credit card payments are $150, his car payment is $350, and his student loan payment is $400.

1. Based on Joe's monthly credit card payments and other debt payments, use the table below to determine his monthly debt-to-income ratio and whether he meets the "20% Rule."

   Joe's monthly debt-to-income ratio is 30%, which exceeds the amount suggested by the "20% Rule." The 20% Rule suggests that you spend no more than 20% of your monthly net income on debt and credit payments, such as credit cards, car payments, and student loans.

2. If Joe does not meet the guideline suggested by the "20% Rule," by what amount must he reduce his monthly credit card payments and other debt payments, and how do you suggest he reduce those payments?

   In order for Joe to meet the "20% Rule," he must reduce his monthly credit card and debt payments by $300, from $900 per month to $600 per month ($600/$3,000 = 20%). In order to do so, Joe can reduce or pay-off his credit card and therefore eliminate the monthly payment, and he can re-finance the purchase or lease of his car with a lower monthly payment. (Student loan payments are difficult to renegotiate, so Joe's best chance to reduce his monthly debt payments is to reduce his credit card payment and car payment.)

Monthly Debt and Credit Card Payments	
Credit card payments	**$150**
Car payments	**$350**
Student loan payments	**$400**
Total Monthly Debt and Credit Card Payments	**$900**
Monthly Net Income (after Taxes)	**$3,000**

$$\text{Monthly Debt-to-Income Ratio} = \frac{\text{All monthly credit card payments and other debt payments}}{\text{Net income (income after taxes)}}$$

$$= \frac{\$900}{\$3{,}000} = 30\%$$