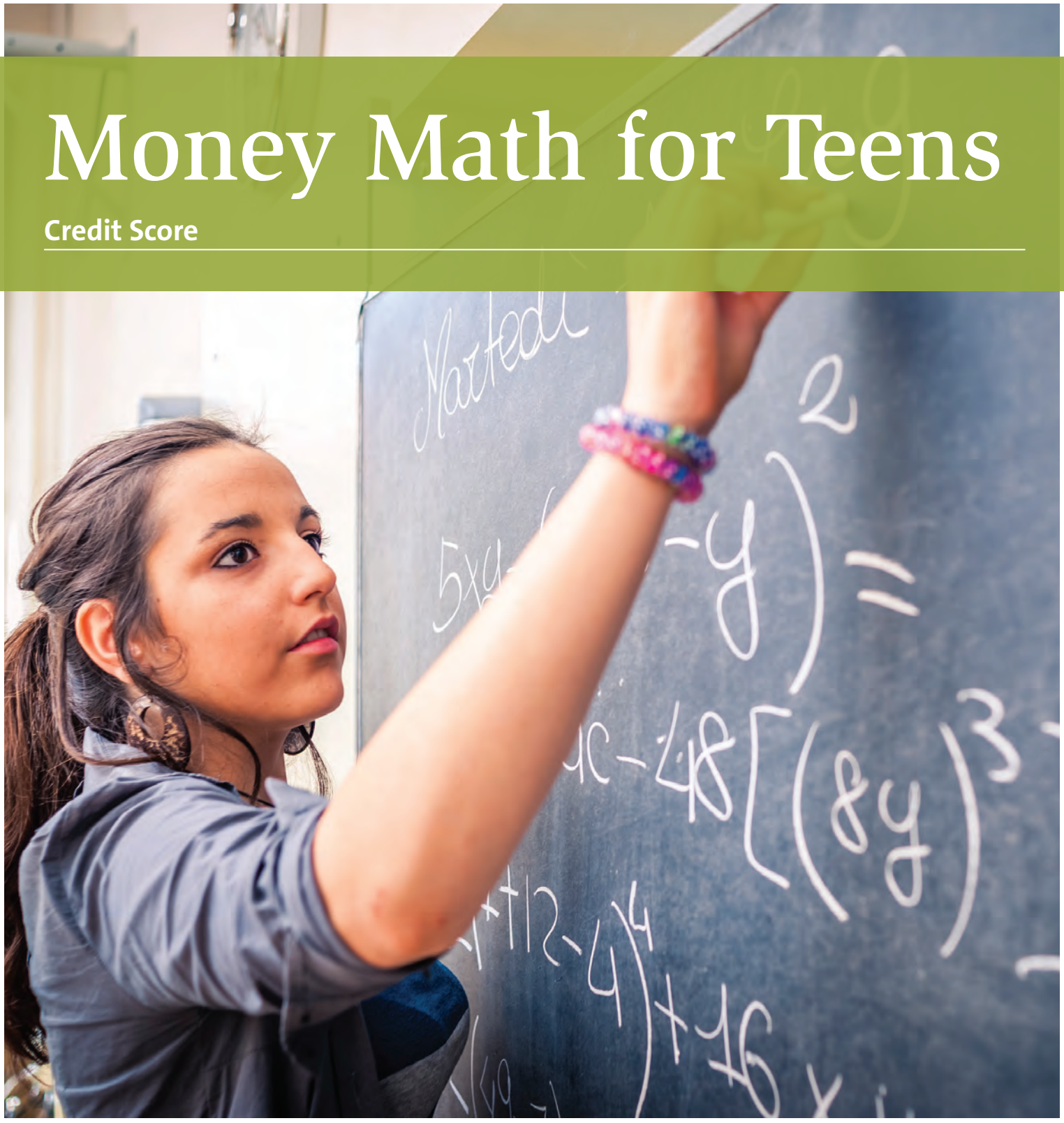
FINRA Investor Education FOUNDATION

Money Math for Teens

Credit Score



Channel One News®

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Credit Score

Lesson Plan

OBJECTIVE

To inform students about credit scores, the benefits of having a good score and pitfalls they may encounter regarding credit and credit scores. The overarching goal is to guide students toward responsible financial habits.

Students will be able to:

- Describe the five major components that make up a credit score
- Describe the benefits of having a good credit score
- Describe positive and negative behaviors that affect a credit score
- Use the monthly payment formula to calculate the monthly payments necessary to pay off a debt in a predetermined period of time
- Calculate the payment schedule for a decreasing loan.

TEACHING MATERIALS

- Lesson plan with answer key for student assessment
- Credit Score student handout
- Credit Score Analytical Exercises worksheet with solutions
- Student assessment worksheet

LESSON ACTIVITY

1. **Determine students' prior knowledge by asking the following suggested questions:**
   - What exactly is a credit score?
   - How can a good credit score benefit you?
   - How can a good score turn bad?
   - How can a bad score hurt you?
   - What is the most important thing you can do to protect and/or improve your credit score?
2. **Introduce the student handout.**
   - Definition of credit score
   - Benefits of using credit scores in lending decisions
   - How can a good credit score benefit you?
   - How is a credit score determined?
     - The FICO 5: weighted components of a credit score (payment history, amounts of debt, length of credit history, new credit, credit type mix)
   - How bad credit decisions can cost you
   - The role of credit reports in getting hired for a job
   - Tips for building and maintaining good credit.

3. **Work through the Credit Score Analytical Exercises worksheet with students.**
   - How to calculate a monthly payment using the monthly payment formula
     - Car purchase payment example
     - Now You Try: car purchase payment exercise
   - Using a credit card as an installment loan
     - How to calculate the loan payoff month by month
     - What happens if you continue to charge on the card?
     - What happens if you continue to charge too much on the card?
       - **Now You Try:** discover the effects of charging too much on a card while trying to pay the balance off
   - Financing a major purchase without damaging your credit score
   - Using multiple credit accounts, decide how best to structure a purchase to protect your credit score and improve it if possible
   - Additional computation exercise: monthly payment needed to pay a balance down to $0
   - Additional analytical exercise: improving a credit score while paying down three debts.

4. **Evaluate students' comprehension (see assessment worksheet).**

Assessment Answer Key

1. C
2. D
3. C
4. A
5. B
6. D
7. D
8. C
9. C
10. A

Student Handout: What Is a Credit Score, and Why Should I Care What Mine Is?

Your credit score is a lot like the score you get on a test. You get points for good credit decisions and behavior, and you get points taken away for bad credit decisions and behavior.

Your credit score, also known as your **FICO score** (FICO stands for Fair Isaac Corporation, the company that originally created the formula), can range from 300–850, and just like your score on a test, the higher your score the better.

FICO Score	Credit Rating
730 and above	Excellent
700–729	Good/above average
670–699	Good
585–669	Fair
584 and below	Poor

Your FICO score is based on a mathematical equation used to evaluate the possible risk associated with lending you money. Credit scores give potential lenders a quick way to measure your credit risk. Would you loan money to someone you know is unreliable? If you thought you wouldn't get your money back, you would consider loaning him or her money a risk, right?

Before lenders began using FICO scores to calculate risk, lenders made slow, inconsistent and possibly biased credit decisions. There are many benefits of lenders using potential clients' FICO scores to determine the possible risk of lending to them.

- **Loans get approved faster.** Scores are available to lenders immediately online, so credit decisions can be made in minutes. Even retail stores, Internet sites and other kinds of lenders can make "instant" credit decisions.
- **Credit decisions are fairer.** The credit scoring process focuses on facts and not on personal biases, gender, race, religion, marital status or nationality.
- **Credit mistakes count for less over time.** Past credit problems won't haunt you forever. The weight of bad credit decisions in the past fades as time goes by as good payment patterns and decisions begin to show up on your report.
- **More credit is available.** Lenders that use credit scoring approve more loans because they have a more precise picture of the risk they are taking when they approve a line of credit for a borrower. Even clients with scores lower than a lender prefers might be approved because some lenders offer a variety of products geared to serve people with different credit risk levels.

The Benefits of Having a Good Credit Score

- **Lower interest rates:** Car loans, credit cards and other credit products for a variety of borrowers.
- **Renting:** Landlords often pull prospective tenants' credit reports to see if they are financially responsible.
- **Job opportunities:** Many employers use a credit report to learn more about prospective employees.
- **Car insurance:** Insurers offer preferred rates on car insurance to customers with excellent credit.
- **Cell phones:** Many cellular service providers require a credit check before a customer starts a new agreement or receives a new phone.
- **Mortgages:** When it comes time to buy your first home, your credit score will determine if you will get a mortgage loan to purchase it and at what interest rate.

How Is My Credit Score Determined?

The FICO 5

Five components make up your credit score. Your payment history and the total amount of your debt are important contributors to your score but are not the only determining factors. The five elements are weighted as follows:

- Payment History 35%
- Amounts of Debt 30%
- Length of Credit History 15%
- New Credit 10%
- Credit Type Mix 10%

Payment History

Your history of repayment of past debt is the single most important factor in determining your credit score. Past long-term behavior is used as a forecast of future long-term behavior. A person with a history of late or missed payments is seen as much more risky than a person with little or no history of late or missed payments. Defaulting on a large installment loan, such as a mortgage loan, will damage your credit score much more severely than defaulting on a smaller, revolving credit line, like a credit card. However, neither benefits your score. One of the best ways to protect your credit score is to make consistent, timely payments on all outstanding debts.

If you do have an occasional late payment, it may have an effect on a credit decision:

- If you have had any late payments recently, a lender might conclude you are having some trouble, which means you are a high risk and that extending more credit to you at this time is not a good idea.
- If, however, you made those late payments three years ago, the lender might conclude that you were having some trouble a while ago, but your clean payment history since then indicates that those troubles are behind you.

Amounts of Debt

Thirty percent of your credit score is based on the total outstanding debt you carry.

Revolving lines of credit are weighted more heavily than installment types of credit. Revolving lines of credit (like credit cards, for instance) allow the borrower to borrow as much or as little as he or she needs, up to a predetermined credit limit. As this debt gets paid down, the debt can then be reborrowed again and again, up to the available limit. Installment credit (such as a car loan) is a set amount determined at the beginning of the loan and is paid off in installments.

The amount of debt you actually owe in relation to your credit limits is a factor that can help or hurt your score. This is calculated on a per-card basis as well as an overall basis.

When the FICO calculation shows that a borrower habitually maxes out his or her credit cards, this indicates that he or she can't handle credit responsibly.

To protect your credit score, you should keep low credit card balances in relation to the credit limit of those cards. Make sure you don't borrow more than 50% of the credit limit on any one card. It's best to keep your balances below 33% of your credit limit. This means it is better to owe a little on several cards than to max out one card all the way up to your credit limit.

Length of Credit History

The length of time each of your credit accounts have been open and the length of time since there has been any activity on each account make up 15% of your credit score. The longer your credit history, the better picture a lender has of your long-term financial behavior. For this reason, someone who is just beginning to use credit cannot have a perfect credit score. People with outstanding credit scores (800 or better) hold at least three sources of credit (credit card(s), installment loan(s), etc), have low or no balance and have more than seven years of history.

People just starting out should obtain and use credit responsibly, and those with a longer history should keep their oldest accounts open and use them. Once you get credit, even if you pay it off completely, don't close the account. Instead, keep it open and use it occasionally to keep it active—then pay it off each month.

New Credit

Opening too many new credit accounts all at once might look to lenders like you are in bad financial shape and in need of significant new credit to stay afloat. Therefore, you should only request and take on new credit when it is needed and/or when it makes good financial sense to do so.

Credit Type Mix

Historically, borrowers with a good mix of revolving accounts (like credit cards) and installment products (like car loans and mortgages) represent less risk for lenders. In general, this mix tends to indicate the borrower can handle all kinds of credit.

Knowing the weights given to the FICO 5 can help you focus when you are trying to build or improve your credit score. Basically, to get and keep a good credit score you will need a long history of credit with no late payments or defaults, as well as low balances in relation to your overall credit limits.

Example >>>

Now let's take *A* look at *A* real-life credit decision. The choices you make will determine how to get what you need and improve your credit score at the same time.

Let's say your only credit account is a credit card from ACME Credit Services. You are carrying a $5,000 balance on this card. The card has an interest rate of 15.9% and a total credit line of $10,000.

One day, you receive an offer in the mail from Bank Uno Credit Services for a credit card with a fixed interest rate that is half of that on your ACME card! Sure, you are making your monthly payments to ACME with no problem, but dollar signs start flashing in your head as you think of all the interest you'll be saving by transferring your balance to your shiny new Bank Uno card.

You accept the offer from Bank Uno. Your credit is good, right?

Your new card arrives in a week, and you transfer your balance over from ACME to Bank Uno.

What you do next will determine what happens to your credit score.

Originally, you had a $5,000 balance on the ACME card with a $10,000 limit, so you were using 50% of your available credit.

5000/10000 = 0.50 = 50%

If the new Bank Uno card has a credit limit of $8,000, you will now be using 62.5% of the credit on your Bank Uno card.

On top of that, since your Bank Uno card is brand new, the Length of Credit History component of your FICO score will suffer, and your credit score will drop some more.

If the new Bank Uno card has the same credit limit ($10,000) as your old ACME card, and you've had the ACME card for a couple of years and a good repayment history, it would be better to keep the ACME card open. Even if you don't use it anymore, you will be using $5,000 out of a total of $20,000 available credit, or 25%.

5000/20000 = 0.25 = 25%

Your debt to available credit ratio just dropped from 50% to 25%, which is a dramatic improvement, so your credit score should go up. But even though using 25% of your available debt always looks better than using 50% of it, don't focus on lowering your debt percentage by opening new lines of credit. Applying for new credit and taking on new debt will lower your credit score, at least for a while. If it looks like you are accumulating more available credit than you need, that too will lower your score.

To keep your credit score high or to improve it, avoid doing anything that will increase your debt percentage. Your time is best spent trying to pay down your balance to improve your debt percentage.

Bad Credit Decisions Can Cost You

While making sound financial decisions will improve your credit score, bad decisions and irresponsible use of credit can really hit you where it hurts: your wallet.

We mentioned earlier that you will get better rates on loans of all types if your credit is good. The opposite is true, too. Having a bad credit score will cost you because banks and financial institutions will charge you a higher interest rate than they would a customer who has better credit. The higher your interest rate, the more expensive your loan.

Below is a sample FICO score to interest rate table that a lender might use to make interest rate decisions for an auto loan of $25,000 to be paid off in 36 months (three years).

FICO Score	APR	Monthly Payment
720–850	7.126%	$773
690–719	8.032%	$784
660–689	9.785%	$804
620–659	11.745%	$827
590–619	15.171%	$869
500–589	15.999%	$879

Notice that the higher the customer's credit score, the lower the interest rate the lender will charge for the same loan. Customers with FICO scores of 720-850 represent the absolute lowest risk to the lender. The further down the FICO scale a customer's score falls, the higher risk that person is, so financial institutions will try to offset the higher risk by charging a higher rate.

What does this mean for customers? Over the life of the loan, a customer with a lower credit score will pay considerably more interest on the same loan than a customer with a higher credit score.

FICO Score	Interest Rate	Monthly Payment	Total Interest Paid
720–850	7.126%	$773	$2,843
690–719	8.032%	$784	$3,215
660–689	9.785%	$804	$3,951
620–659	11.745%	$827	$4,786
590–619	15.171%	$869	$6,272
500–589	15.999%	$879	$6,640

You can see that a customer with a great credit score pays $773 per month and a total of $2,843 in interest over the three years of the loan. A customer with a credit score in the lowest range pays **$106 more per month** and **$3,797 more in interest** for the exact same loan. Ouch!

Getting Hired

Many companies use credit reports as criteria when making employment decisions. They seem to believe that a credit score is a more reliable and more unbiased source of information about a potential employee than his or her references.

A good credit score can be an indicator of responsible behavior, showing that the job candidate can be trusted around money and other sensitive information. A bad credit score can signal potential for irresponsible behavior and overall untrustworthiness. Fair or not—bad things do happen to good people—more and more companies are pulling credit on potential employees.

A candidate's credit score can be a more significant factor in hiring decisions for certain types of jobs. Credit scores are likely to be a heavily weighted factor for jobs that require financial responsibility—senior management, accounting, payroll, or any other position where the employee needs to be trusted with sensitive and confidential information.

Information found on a credit report can sway a hiring decision one way or another. Sixty-four percent of firms using credit reports in employment decisions said legal judgments, such as lawsuits, are very likely to influence an employment decision. Forty-nine percent said a prospective employee's number of debts in collection could weigh negatively against him or her. Eighteen percent said a high debt-to-income ratio would be a red flag, and 11% said a foreclosure on a candidate's report would end his or her chances.

There is some good news about credit reports and potential employers. An employer won't usually bother pulling a credit report until the potential employee has impressed them enough to be seriously considered for the position.

A proactive way to handle bad news on your credit report would be to offer it up during your interview. Explain what the blemishes are and why they are there. The employer will most likely appreciate your honesty, and you'll get the chance to explain in advance instead of letting the employer find the information and form their own conclusions.

Tips for Improving Your Credit Score

Things that have a good effect on your credit score:

- Paying your bills on time and in full
- Using 33% of your available credit or less
- Steady employment history.

Things that have an **adverse effect** on your credit score:

- Late or missed payments
- Using 80% or more of your available credit
- Gaps in your employment history
- Too many new accounts
- Accounts with credit limits higher than you need.

Here are some helpful pieces of advice you can use to improve your score:

- Pay your bills on time and in full.
- If you have a late payment, get current and stay current.
- Pay down your credit cards to improve your debt percentage.
- Keep balances low on credit cards.
- Don't open new accounts just to improve your debt percentage.
- Don't open a lot of new accounts all at once.
- Don't close old accounts; use them and pay them off monthly.
- Be responsible with credit!

Credit Score Analytical Exercises

Monthly Payments

It's helpful to know how to calculate a monthly payment on a loan balance. This will tell you how much you'll need to pay each month to pay off your debt over a certain period of time.

The formula to calculate the monthly payment on an original principal loan amount (*P*) at an annual interest rate (*I*) that will be necessary to pay the entire loan off in *N* months is:

$$\text{Monthly Payment} = \frac{(P \times (I \div 12))}{(1 - (1 + (I \div 12))^{-N})}$$

P = Principal amount of the loan

I = Interest rate of the loan

N = Number of months to pay off the loan

Let's try it out.

A buyer wants to purchase a **$25,000** automobile at **6%** interest and pay the loan off entirely in **three years.**

P = 25000

I = 6% = 0.06

N = 3 years = 36 months

Now use the formula:

$$\text{Monthly Payment} = \frac{(25000 \times (0.06 \div 12))}{(1 - (1 + (0.06 \div 12))^{-36})} = \frac{25000 \times 0.005}{(1 - (1 + 0.005)^{-36})}$$

$$\frac{125}{(1 - (1.005)^{-36})} = \frac{125}{(1 - 0.83564)} = \frac{125}{0.16436} = \textbf{\$760.53}$$

The monthly payment will be **$760.53.**

Did you get the same answer?

Now You Try

You are deciding if you can afford to take on **$8,000** in new debt at an annual interest rate of **11%.** You want to pay this debt off in **2.5 years.** What will your monthly payment be?

P = 8000

I = 11% = 0.11

N = 2.5 years = 30 months

Your monthly payment will be **$306.23.**

Using a Credit Card as an Installment Loan

Let's say you decide to use a credit card like you would an installment loan. You'll make a large purchase on the card, creating a balance. Then, you won't use the card again until the entire balance is paid off. The following examples will help you understand why you don't use the card again.

Option A: No Longer Using the Card

I create a **$3,000** balance on a credit card that has an **11%** interest rate. I can afford to make equal monthly payments of **$100** per month.

I don't use the card again after creating the $3,000 balance.

Let's see how my $100 payments are being used:

- **1st month**

  $3,000 x 11% = 3000 x 0.11 = $330 in interest per year

  330/12 = **$27.50 interest for the 1st month**

  When I pay my 1st month's $100 payment, the credit card company takes $27.50 in interest.

  100 - 27.50 = **$72.50 applied toward the loan balance**

  This means that **$72.50** of my $100 payment will pay down what I owe.

  3000 - 72.50 = **$2,927.50 balance**

- **2nd month**

  $2,927.50 x 11% = 2927.50 x 0.11 = $322.03 in interest per year

  322.03/12 = **$26.84 interest for the 2nd month**

  When I pay my 2nd month's $100 payment, the credit card company takes $26.84 in interest.

  100 – 26.84 = **$73.16 applied toward the loan balance**

  2927.50 – 73.16 = **$2,854.34 balance**

- **3rd month**

  $2,854.34 x 11% = 2854.34 x 0.11 = $313.98 in interest per year

  313.98/12 = **$26.17 interest for the 3rd month**

  When I pay my 3rd month's $100 payment, the credit card company takes $26.17 in interest.

  100 – 26.17 = **$73.83 applied toward the loan balance**

  2854.34 – 73.83 = **$2,780.51 balance**

The table below shows the numbers for the first three payments:

Payment	Interest Paid	Principal Paid	Balance
Month 1	$27.50	$72.50	$2,927.50
Month 2	$26.84	$73.16	$2,854.34
Month 3	$26.17	$73.83	$2,780.51

As each month passes and each payment is made, notice how the amount of interest paid gets *smaller* each month. This happens because once the $100 payment is made and the interest due is taken from that payment, the rest of what's left of the $100 is used to pay back the loan balance. Since the amount owed gets smaller, the amount of interest due gets smaller, too. Each month, more and more of the $100 payment is used to pay back the loan and less and less is needed to pay interest due.

If you keep doing the monthly calculations until the loan balance is 0, you'll see that it takes **36 months (3 years)** to pay the loan off completely, and you will end up paying **$524.32 in total interest.**

The most important thing to notice about the previous example is that the $100 payment is enough to pay the interest due each month with some money left over to pay down the loan balance. Since you aren't continuing to use the card, the balance gets smaller and smaller each month.

► **But what if you continue to use the card?**

Looking at the 1st month's payment in the example table, we see the $100 payment is divided up. Part of it—$27.50—is interest, while the remaining $72.50 goes to pay down the loan balance. The balance decreases each month.

However, if you continued to use the card for purchases and charged more than $72.50 in a month, the balance of the loan would increase, not decrease, because the $100 payment you're able to make won't cover the new charges and the interest owed on the previous month's balance. So the next month you'd owe more interest than the month before, not less.

Below is a specific example of what would happen to your monthly payments if you charge on the card, adding to your existing balance.

Option B: Continuing to Use the Card

I create a **$3,000** balance on a credit card that has an **11%** interest rate. I can afford to make equal monthly payments of **$100** per month.

I continue to use the card, charging an additional **$50** per month.

Let's see how my $100 payments are being used:

- **1st month**

  $3,000 + $50 new charges x 11% = 3050 x 0.11 = $335.50 in interest per year

  335.50/12 = **$27.96 interest for the 1st month**

  When I pay my 1st month's $100 payment, the credit card company takes $27.96 in interest.

  100 – 27.96 = **$72.04 applied toward the loan balance**

  3050 – 72.04 = **$2,977.96 balance**

- **2nd month**

  $2,977.96 + $50 new charges x 11% = 3027.96 x 0.11 = $333.08 in interest per year

  333.08/12 = **$27.76 interest for the 2nd month**

  When I pay my 2nd month's $100 payment, the credit card company takes $27.76 in interest.

  100 – 27.76 = **$72.24 applied toward the loan balance**

  3027.96 – 72.24 = **$2,955.72 balance**

- **3rd month**

  $2,955.72 + $50 new charges x 11% = 3005.72 x 0.11 = $330.63 in interest per year

  330.63/12 = **$27.55 interest for the 3rd month**

  When I pay my 2nd month's $100 payment, the credit card company takes $27.76 in interest.

  100 – 27.55 = **$72.45 applied toward the loan balance**

  3005.72 – 72.45 = **$2,933.27 balance**

The table below shows the numbers for the first three payments:

Payment	Interest Paid	Principal Paid	Balance
Month 1	$27.96	$72.04	$2,977.96
Month 2	$27.76	$72.24	$2,955.72
Month 3	$27.55	$72.45	$2,933.27

Compare this table with the table in the previous example, when you didn't use the card for any new spending.

Luckily, the $100 payment is still enough to pay the interest due, and the loan balance is still getting smaller—but it is coming down at a much slower rate. If we continued our calculations, it would take **89 months (7.4 years)** to pay this loan completely off, and you will end up paying **$1,437.89 in total interest.**

Spending just $50 a month on the card means that it will take **53 months (about 4.4 years) longer** to pay off the loan, and you will spend **$913.57 more in interest.**

Now You Try

Can you predict what would happen to the exact same loan with the exact same $100-per-month payment if you continue to use the card and charge $100 per month in new charges on it?

Answer

Payment	Interest Paid	Principal Paid	Balance
Month 1	$28.42	$71.58	$3,028.42
Month 2	$28.68	$71.32	$3,057.09
Month 3	$28.94	$71.06	$3,086.03

In this scenario, interest rises every month as the principal reduction falls, which means that the balance **grows every month.** The balance gets bigger and bigger every month, and so does the amount of interest owed. This loan **can never be paid off!**

Financing a Major Purchase without Damaging Your Credit Score

You are currently carrying a **$2,000** balance on a credit card with an annual interest rate of **9%.** In order to pay this debt off in **2.5 years (30 months),** you are currently making a monthly payment of **$74.70.**

Your credit limit is **$15,000.** You are deciding how to finance an **$8,000** purchase.

- Will this new purchase fit within your existing credit limit?
- Will financing an $8,000 purchase have any impact on your credit score? How and why?

Your credit score is currently very good, so you have a couple of offers for new credit.

One offer is for an installment loan at the same 9% rate. The credit limit is $8,000. You also have an offer for a card at 11% with a credit limit of $15,000, the same as your existing card.

So:

Option A = installment loan with **9%** rate, credit limit **$8,000**

Option B = credit card with **11%** rate, credit limit **$15,000**

Would you choose Option A with the lower rate or Option B with the higher credit limit? Why?

Analysis

You currently owe $2,000 at a 9% interest rate. If you select the installment loan (Option A), you will have a new debt of $8,000 at an interest rate of 9% and will pay $298.79 per month to pay this loan off in 2.5 years.

Your combined monthly payments will be $74.70 + $298.79 = **$373.49.**

How would selecting **Option A** affect your credit score?

- You'll have a brand-new debt, which will hurt your score slightly at first.
- You'll have a new type of debt, which will help your score slightly.
- Both the New Credit and Credit Type Mix categories are weighted 10% in calculating your credit score.
- With one positive and one negative effect, you would expect the combination to have a neutral impact on your score.
- Your total credit limit just jumped from $15,000 to $23,000. You are using $10,000 of this, which leaves you with a debt percentage of 10000/23000 = 0.434 = **43.4%.** This debt percentage is not too bad, but because the amount of debt you carry is weighted 30% in calculating your credit score, you would expect a decrease in your credit score as a result of selecting Option A.

If you select the credit card option (Option B), you will have a new debt of $8,000 at an interest rate of 11% and will pay $306.23 per month to pay this loan off in 2.5 years.

However, if you decide to put only $5,000 of the new debt on this card, your monthly payment will be just **$191.39.**

You'll then add the remaining $3,000 of the new debt to the existing $2,000 debt on your original card. Your balance on that card will then be $5,000 at 9%, leaving you with a monthly payment of **$186.74.**

Your combined monthly payments will be $186.74 + $191.39 = **$378.13.**

How would selecting **Option B** affect your credit score?

- You'll have a brand-new debt, which will hurt your score slightly at first.
- Your total credit limit just jumped from $15,000 to $30,000. You are using $10,000 of this, which leaves you with a debt percentage of 10000/30000 = 0.333 = **33.3%.** This is much better.

Because debt percentage is weighted 30% in calculating your credit score, and a 33.3% debt percentage is a very good indicator of responsible credit use, you could expect your credit score to increase as a result of selecting Option B.

Option A has certain advantages over Option B:

- You would create a new type of debt.
- You would have a lower total available credit limit ($23,000 vs. $30,000).
- Your total monthly payment on both debts would be $373.49, a savings of $4.64 over Option B.

But Option B has advantages over Option A, too:

- Your outstanding debt to available credit ratio is a full 10% lower with Option B (about 33% vs. 43%). This category is weighted 30% in calculating your credit score, making this difference quite significant.
- Once you've repaid the new debt, you will have an active credit line that is 2.5 years old, which you can continue to use responsibly. This will help your score in the Length of Credit History category (which makes up 15% of your score), and the credit will still be available for your use.

With these advantages, it sounds like this option is worth the additional $4.64 per month. **Option B** appears to be the smarter financial choice.

Additional Computation Exercise

What is the monthly payment required to bring each account from the current balance down to a balance of $0 in the number of months shown in the table?

Account	Balance	Interest Rate	Months until $0
A	$5,000	13%	36
B	$6,500	14.5%	48
C	$7,200	16%	60
D	$2,700	15.9%	24

Answers

Account	Monthly Payment Required
A	$168.37
B	$179.26
C	$175.09
D	$132.07

Additional Analytical Exercise

Examine the table below. A friend has the following outstanding debts:

Account	Current Balance	Interest Rate	Credit Limit
Card A	$2,000	12%	$8,000
Card B	$4,200	10%	$5,000
Card C	$3,300	9%	$5,000

His credit score is starting to suffer.

Your friend asks you for your help and advice on how to improve his credit score.

Currently, what percentage of his total available credit is your friend using?

Your friend tells you:

- No balance transfers are possible at this time.
- No new credit will be extended to him at this time.
- Each account has a **$15/month** minimum payment requirement.

Your friend can pay only **$600/month** to service all of his debt.

What advice do you give your friend on how to improve his credit score?

- Where should your friend focus his attention? Why?
- How could his $600 best be used to service this debt?

Sound Analytical Answer

My friend is using 9500/18000 = 0.5277 = 0.53 = 53% of his total available debt.

On Card A, he's using 2000/8000 = 0.25 = 25% of his available credit. This is very good, responsible usage of the card.

Card A has a $2,000 balance with a 12% interest rate. This translates into 2000 x 0.12 = $240 interest per year, or 240/12 = $20 interest per month.

Each account has a $15/month minimum payment. This payment would not be sufficient to pay the interest charge on Card A. My friend should be making payments of **no less than $20 per month** on Card A in order to keep his balance at $2,000 and not increase his debt.

So, if out of the $600/month he has available to pay off his debts, my friend allots $20 to paying off Card A, he'll have $580/month available to service the other two cards.

On Card B, he's using 4200/5000 = 0.84 = 84% of his available credit. This is way too high and will cause his credit score to fall.

On Card C, he's using 3300/5000 = 0.66 = 66% of his available credit. This also is way too high and will cause his credit score to fall.

Between Cards B and C, Card B is the bigger problem. I would advise my friend to focus on paying off Card B, then Card C.

Card B can be paid off in **12 months** by making a monthly payment of **$369.25.**

Because my friend still has $580/month to work with after making a $20/month payment on Card A, I would advise him to use $369.25 of the $580 to pay Card B. This would leave $210.75 to pay off Card C.

At that rate, how long will it take him to pay off Card C?

- It would cost $288.59/month to pay it off in 12 months. He doesn't have that much money to use for payments.
- It would cost $249.19/month to pay it off in 14 months. He doesn't have that much money to use for payments.
- It would cost $219.64/month to pay it off in 16 months. He doesn't have that much money to use for payments.
- It would cost **$196.67/month to pay it off in 18 months.** He *can* pay this amount, with **$14.08** (210.75 – 196.67) **left over.**

He can put the **leftover $14.08** toward paying off Card A to decrease that balance while he focuses on Cards B and C.

Therefore, I would advise my friend to pay **$34.08** on Card A, **$369.25** on Card B and **$196.67** on Card C every month.

This will eliminate his balance on Card B in 12 months and Card C in 18 months and will reduce Card A's balance in those 18 months.

Name _____ Date _____

Student Assessment: Understanding Credit Scores

Now that we've removed the mystery surrounding credit scores, let's see how well you recall the most important facts. You may need the following formula to answer some of the questions.

$$\text{Monthly Payment} = \frac{(P \times (I \div 12))}{(1 - (1 + (I \div 12))^{-N})}$$

P = Principal amount of the loan

I = Interest rate of the loan

N = Number of months to pay off the loan

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1. What is a common name for a person's credit score?

A. Credit risk index

B. Credit evaluation index

C. FICO score

D. Credit limit

2. Name one way a good credit score can benefit you:

A. Better loan rates

B. Better car insurance rates

C. Better job opportunities

D. All of the above

3. Which of the following components used to determine a credit score counts most when determining that score?

A. Debt to available credit ratio

B. Length of credit history

C. Payment history

D. Number of recent credit inquiries

Name _____ Date _____

4. What would the monthly payment be on a $4,200 debt at 14.99% interest if you wanted to pay the debt completely off in 42 months?
   A. $129.12
   B. $100.00
   C. $162.50
   D. $350.00

5. How much of the monthly payment on a $4,200 debt at 14.99% interest would be used to pay the interest for the 1st month if the loan term is 42 months?
   A. $162.50
   B. $52.47
   C. $129.12
   D. $76.65

6. What would be considered the ideal debt-to-available-credit ratio?
   A. 50% or more
   B. 33% or more
   C. 50% or less
   D. 33% or less

7. How could opening several new credit accounts all at the same time affect your credit score?
   A. It helps: it says I can handle lots of new credit
   B. It hurts: it says I had too little credit to begin with
   C. It helps: it says I had too little credit to begin with, but now I have the correct amount
   D. It hurts: it says I may be in trouble and need lots of help to stay afloat

8. Which is the best way to carry a $9,000 debt?
   A. On a single account with an $18,000 credit line
   B. Split evenly across two accounts with $10,000 credit lines each
   C. Split into thirds across three accounts with $9,000 credit lines each
   D. On a single account with a $9,000 credit line

Name _____ Date _____

9. Would it be easier on your budget to pay off a $4,200 debt at 14.99% interest in 42 months, or $4,200 at 17.5% interest in 60 months?

A. 14.99% for a shorter time has got to be better than 17.5% for longer

B. A longer loan term means I would pay lots more interest over the term of the loan, so the option to pay 14.99% for 42 months would be better

C. The longer-term loan results in a lower monthly payment, so it would be easier on my budget

D. Always pay less interest; choose 14.99% for 42 months

10. What is the single best thing you can do to help build a good credit score and to keep it once you have it?

A. Pay my bills on time

B. Keep balances on all accounts low

C. Take out only the credit I need when I need it

D. Pay cash