Buy Now, Pay Later

A THINKLAW MATH LAB

OBJECTIVE	Thinkers will **use addition, subtraction, and multiplication t**o determine if payment plans are fair.

Lesson Outline

1. In the thinkstarter, thinkers will analyze a real-life legal case where a woman entered an expensive payment plan with Rent-A-Center.
2. Thinkers will consider payment plans. Why do we have them? How do they work? Are they fair? Thinkers will learn that when it comes to payment plans, you need to use your math skills to move from a gut reaction to an informed opinion.
3. Thinkers will go through 4 examples of payment plans. They will share their gut reactions to the plan before calculating the final costs. Thinkers will analyze the final costs to make an informed opinion about the deal.
4. Thinkers will then offer advice to a relative about two of the plans.
5. In the thinkBigger, thinkers will assume the role of a salesperson. How could they sell each payment plan to a customer?

Indiana Academic Standards

Algebraic Thinking

3.AT.3: Solve two-step real-world problems using the four operations of addition, subtraction, multiplication, and division

4.AT.1: Solve two-step real-world problems using the four operations of addition, subtraction, multiplication, and division

5.AT.5: Solve real-world problems involving addition, subtraction, multiplication, and division with decimals to hundredths, including problems that involve money in decimal notation.

Standards for Mathematical Practice

PS.1 Make sense of problems and persevere in solving them.	**PS.2** Reason abstractly and quantitatively.	**PS.3** Construct viable arguments and critique the reasoning of others.	**PS.4** Model with mathematics.
PS.5 Use appropriate tools strategically.	**PS.6** Attend to precision.	**PS.7** Look for and make use of structure.	**PS.8** Look for and express regularity in repeating reasoning.

Lesson Materials

- thinkLaw Student Work pages
- Writing Utensils
- Calculators

Instructor's Note:

thinkLaw Math Labs have been created with 5 warm-up problems designed to serve multiple puposes: pre-assessment tool, a review tool, an activiation of learing, or a readiness tool.

The purpose of the warm-up section is to offer students a brief but effective practice session, lasting approximately 5-10 minutes. If students encounter difficulties with any of the problems, it's perfectly fine to proceed, as the Math Lab is structured to provide support and scaffold their learning.

In the slides provided, you'll find a designated prompt indicating where to incorporate the warm-up section with your students. The slide can also serve as an opportunity to review the answers to the warm-up problems together with your students before continueing on with the math lab.

For convenience, we recommend printing the warm-up and cool-down sections front to back on a single sheet of paper, facilitating easy access and organization during the Math Lab session.

Name _____

Buy Now, Pay Later
A thinkLaw Math Lab Warm-Up

1. A grocery store receives a shipment of 6 crates of apples, with each crate containing 30 apples. On the first day, the store sells 24 apples. How many apples are left to be sold?

$$6 \times 30 = 180$$
$$180 - 24 = 156$$

156 apples

Apples left: _____

2. A bakery has a 7-day goal to sell 500 cupcakes. On day 1, the bakery sells 80 cupcakes. On the other six days, they sell an equal number of cupcakes to reach their goal. How many cupcakes are sold on day 2?

$$500 - 80 = 420$$
$$420 \div 6 = 70$$

Cupcakes sold on day 2: **70 cupcakes**

3. Sophia wants to buy the same number of pencils for her 4 friends. She has $36, and each pencil costs $2. How many pencils can Sophia buy for each friend?

$$\$36 = \$2 \times \text{the number of pencils}$$
$$2 \qquad\qquad 2$$

Number of Pencils: **18 pencils**

4. Samantha goes to the grocery store to buy some snacks for a movie night with her friends. She buys 3 bags of chips for $2.50 each and a large tub of popcorn for $4.50.

$$\$2.50 \times \$3.00 = \$7.50$$
$$\$7.50 - \$4.50 = \$3.00$$

How much more money did Samantha spend on chips than popcorn? **$3.00**

5. You have a $20 budget to spend at the grocery store. Why do you think it's important to know how to add, subtract, multiply, and divide without using a calculator?

A thinker may say that since they have a budget it's important that they don't go over. Knowing how to add and subtract helps you know how much you've spent and how much you have left to spend. Understanding how to multiply and divide helps you figure out which product is the best deal.

Name _____

Buy Now, Pay Later
A thinkLaw Math Lab

thinkStarter (Perez v. Rent-A-Center, New Jersey, 2005)

Hilda Perez needed some items for her home. Hilda went to a Rent-A-Center.

Rent-A-Center is a store that allows people to rent items. A customer can rent furniture or electronics for a weekly or monthly fee. People can eventually own the items after they have paid the full cost of the items. Or people can return the item to the store and stop paying rent.

Hilda rented used furniture, a used washer and new dryer, a used DVD player and television, a new computer, and a used large screen television and cabinet. Hilda agreed to pay weekly rental payments.

Total Cost Hilda Would Have Paid to Buy Those Items Up Front $9,301.72	Total Cost Hilda Paid with This Agreement $18,613.32
How much extra did Hilda need to pay for renting-to-own the items? $18,613.32 − $9,301.72 ——————— $9,311.60 Thinkers should subtract the total cost from the final cost.	What is your gut reaction? Why? Thinkers may say that the final cost is outrageous. Hilda would need to pay double the total price to use the rent-to-own plan. Other thinkers may say that Hilda agreed to the plan, and she should have thought about the final repayment total. There are some items, like two TVs that she might not have really needed.

thinkStarter Summary

Hilda had to pay a significant amount of money to use a payment plan. How do you know if a payment plan is a fair deal? In today's thinkLaw lesson we will look at some offers and determine if they are a fair deal.

Instructor's Note:
Thinkers may struggle to understand why someone would not just use their paycheck to repay the pay day loan. Point out that people need those paychecks to pay for their regular expenses like food, gas, rent, etc. Often, people are left paying these bills long after the event has passed.

Probing Questions:
Whom do these loans target? Think of where you have seen these stores. Where are they located? Why do you think these locations were chosen?

- What are other ways people could get the money?
- What if none of those other ways were options?
- Do you think if people had multiple options for money, they would go to a payday loan store? Why or why not?
- Whose job should it be to make sure deals are fair? Why should that person be responsible?
- Often when making a purchase or loan, you can negotiate or ask for a different deal. What questions should you ask if you are trying to get yourself a better deal?
- Imagine you are out with your friends. You are very, very hungry but do not have any money. One friend offers to loan you $10 but says you must pay him back $45. What would you say to that friend? Why?

Instructor's Note:
This case went all the way to the New Jersey Supreme Court. Hilda won.

How Do Payment Plans Work?

A **payment plan** is when a person buys an item but instead of paying the full price immediately, they make smaller payments until they pay off the full price.

It is almost always cheaper to pay the whole amount for an item up front. If you make smaller payments, you usually end up paying more than the original amount.

Why would a company charge people extra money to make smaller payments on an item?	Do you think that is fair? Why or why not?
This is a way for a company to make money. You are borrowing from the company, so they can charge a fee for that service.	Thinkers may choose either option. Thinkers may say that companies should charge a fee for a payment plan, but the fee should be reasonable. Thinkers might say it is unfair for a person to pay double the original cost with a payment plan.

Payment plans are important.

Making smaller payments over time can be a way for people to get items they need. There are many items that most people cannot buy without a payment plan. Items like cars, houses, and other large purchases can be too expensive to pay for all at once. If there were no payment plans, most families would never be able to buy cars, houses, and other expensive items.

You can look at a deal and have a **gut reaction** if the offer is a good deal or a bad deal. But you can use math to move from a gut reaction to an **informed opinion!** Using your math skills will help you make better decisions with your money. Let's look at a few deals together.

COUCH FOR SALE

$429.94

SAVE NOW — BUY LATER

DON'T MISS OUT!

$40 a month for 20 months

Is it a good deal?

What is your gut reaction?

☐ Good Deal
☐ Bad Deal

How much more will you pay with the payment plan?

$$
\begin{array}{r}
40 \\
\times\ 20 \\
\hline
800
\end{array}
\qquad
\begin{array}{r}
\$800.00 \\
-\ \$429.94 \\
\hline
\$370.06
\end{array}
$$

Thinkers should multiply $40 by 20 months. They should then subtract the original price from the final repayment price.

What is your informed opinion?
☐ Good Deal
☐ Bad Deal

Why or why not?

Thinkers will likely say this is a bad deal. The final price is much higher than the original price.

TV FOR SALE

$369.99

SAVE NOW — BUY LATER

$75 Down Payment

$15 a week for 20 weeks

Great Deal Alert!

Is it a good deal?

What is your gut reaction?

☐ Good Deal
☐ Bad Deal

How much more will you pay with the payment plan?

$$
\begin{array}{r}
15 \\
\times\ 20 \\
\hline
300
\end{array}
\qquad
\begin{array}{r}
300 \\
+\ 75 \\
\hline
375
\end{array}
\qquad
\begin{array}{r}
\$375.00 \\
-\ \$369.99 \\
\hline
\$5.01
\end{array}
$$

Thinkers should multiply $15 by 20 months and add the $75 down payment. They should then subtract the original price from the final repayment price.

What is your informed opinion?
☐ Good Deal
☐ Bad Deal

Why or why not?

Thinkers will likely say this is a good deal. The final price is close to the original price.

many ways to approach problems.

Probing Questions:

- What questions should you ask before you agree to a payment plan? Why are the answers to these questions important?
- Should businesses be required to tell the final total for repayment at the end of the plan? Who is responsible for the math: the business or the customer? Why?
- Would you rather make small weekly payments or bigger monthly payments? Why? What is the best argument for each option?
- What would the world look like if payment plans did not exist?
- What do you think a person can do if they agree to a payment plan and then later realize the deal was not fair?

CAR FOR SALE
$10,000 NOW

No money down!
$250 a month for 5 years

SAVE NOW BUY LATER

Is it a good deal?

What is your gut reaction?

☐ Good Deal
☐ Bad Deal

How much more will you pay with the payment plan?

12	$250	$15,000
x 5	x 60	- $10,000
60	$15,000	$5,000

Thinkers should start by multiplying 12 months by 5 years. Then they should multiply $250 times 60 months. They should then subtract the original price from the final repayment price.

What is your informed opinion?
☐ Good Deal
☐ Bad Deal

Why or why not?
Thinkers will likely say this is a bad deal. The final price is much higher than the original price.

TRUCK FOR SALE
$15,000 NOW

$5,000 down
$280 a month for 3 years

SAVE NOW BUY LATER

Is it a good deal?

What is your gut reaction?

☐ Good Deal
☐ Bad Deal

How much more will you pay with the payment plan?

12	$280	$10,080	$15,080
x 3	x 36	+ $5,000	- $15,000
36	$10,080	$15,080	$80

Thinkers should start by multiplying 12 months by 5 years. Then they should multiply $250 times 60 months. They should then subtract the original price from the final repayment price.

What is your informed opinion?
☐ Good Deal
☐ Bad Deal

Why or why not?
Thinkers will likely say this is a good deal. The final price is close to the original price.

Instructor's Note:

Each example contains slightly different details.

- Example 1: The first example uses monthly payments.
- Example 2: The second example uses weekly payments and a down payment
- Example 3: The third example lists a monthly payment for 5 years. Thinkers will need to calculate the number of months in 5 years.
- Example 4: The fourth example also lists the monthly payment but requires a down payment.

Point out these differences.

- Why do you think they're each a little different? Do you think the people that advertise deals might try to trick people? Why or why not?
- What can you do to keep from being tricked?
- Do you think the phrase "No money down" might trick people into thinking an offer is a good deal? Why or why not?

thinkAdvice

Imagine your cousin is thinking about agreeing to this payment plan. What advice would you give them? Why?

COUCH FOR SALE
$429.94
SAVE NOW
BUY LATER
$40 a month for 20 months

This seems like a pretty good deal. What do you think I should do?

Your Advice:

Be careful! To decide if the couch is a good deal, you need to do the math. You need to multiply $40 times 20 months to see then final payment. When you do the calculations, you will see that the final cost of the payment plan is $800. That is $370.06 higher than the original price.

I saw this ad for a TV. What do you think? Should I buy the TV?

TV FOR SALE
$369.99
SAVE NOW
BUY LATER
$75 Down Payment
$15 a week for 20 weeks
Great Deal Alert!!

Your Advice:

To decide if the TV is a good deal, you need to do the math. You need to multiply $15 times 20 weeks. Then add in the price of the down payment to see then final payment. When you do the calculations, you will see that the final cost with the payment plan is $375. That is close to the original price of the television. This appears to be a fair deal.

What is the **MOST IMPORTANT** advice you can give someone about a payment plan? Why?

You may have a gut reaction about the deal, but to have an informed opinion you need to press pause and do the math to see how much you will end up needing to pay back.

SEL Instructor's Note:
When you are facing a tough decision, it is a good idea to get advice from other people.
- How does asking for advice help you make a better decision?
- How do you decide if you should trust the advice you have been given?
- Whom do you ask for advice from when you have a tough decision? Why?

Instructor's Note:
When lawmakers and lawyers work to create rules and laws, they often look at many resources to synthesize the information. **Synthesize** means to combine parts to make a whole.

The act of giving advice is a great way to practice sythesizing. When a thinker gives advice that connects to the topic they're studying, they are pulling together what they have learned and analyzing the information to determine what's the most critical parts.

Probing Questions:
- Would you give everyone you know the same advice? Why or why not? Would you give a billionare the same advice as someone who does not have any money? Why or why not?
- Should every item be available with a payment plan? Why or why not? What are the top 3 items you think should be bought with a payment plan? What are the top 3 itmes you think should not be bought with a payment plan?

You may introduce thinkers to the concept of **cherry picking**. Cherry picking is when you only include the information that supports your point of view, and you do not talk about the information that does not support your point of view.

- What information would make this look like a good deal?
- What information would make this seem like a bad deal?
- Why might a salesperson only want to mention the good information?

thinkBigger

People often agree to payment plans after speaking with a salesperson. A salesperson's job is to get someone to agree to accept a deal.

Pretend you are a salesperson; what would you say to convince someone to take the deal?

CAR FOR SALE
$10,000 NOW
No money down!
$250 a month for 5 years
SAVE NOW BUY LATER

TRUCK FOR SALE
$15,000 NOW
$5,000 down
$280 a month for 3 years
SAVE NOW BUY LATER

What would you say?

Thinker responses will vary. Thinkers may want to emphasize that the customer is not required to pay any sort of down payment. This means that they can take the car home before they need to pay any money.

What would you say?

Thinker responses will vary. Thinkers may want to tell the customer that the final price of the truck is close to the original price. For just $80, the customer can break down the payments over time.

Do you think salespeople should be allowed to make sales that they know are a bad deal? Why or why not?

Thinker responses will vary. Some thinkers may say that the ultimate responsibility is with the buyer. People need to make sure that the purchases they make are smart and that they are not getting ripped off. Other thinkers may argue that salespeople should be honest. It is not fair to try to trick people into paying extra money.

Probing Questions:
- What questions do you think a customer would ask you about this deal? How would you answer these questions?
- Why would a customer tell you that they do not want to take the deal? What can you say in response to that argument?
- Is purposely leaving out information the same as lying? Why or why not? How would your parents answer that question?
- If you know that a salesperson is probably only going to tell you the good information, how does that help you make better decisions?
- Many people like to take someone with them if they are thinking about buying a car. Why would it be helpful to have another person with you when you go to make a major purchase?
- If someone is trying to sell you something, whom can you ask to give you advice? Why is that person a good person to ask for advice?

Name _____

Buy Now, Pay Later
A thinkLaw Math Lab

TIRES FOR SALE
$218.00 NOW

$75 down
$35 a week
for 6 weeks

SAVE NOW
BUY LATER

Is it a good deal?

What is your gut reaction?

☐ Good Deal
☐ Bad Deal

How much more will you pay with the payment plan?

$$\begin{array}{r} \$35 \\ \times\ \ \ 6 \\ \hline \$210 \end{array} \qquad \begin{array}{r} \$210 \\ +\ \$75 \\ \hline \$285 \end{array} \qquad \begin{array}{r} \$285 \\ -\ \$218 \\ \hline \$67 \end{array}$$

Thinkers should multiply $35 by 6 months and add the $75 down payment. They should then subtract the original price from the final repayment price.

What is your informed opinion?
☐ Good Deal
☐ Bad Deal

Why or why not?
Thinkers may feel that an additional $67 for the tires is too large a price increase.

NIKE DUNK LOW RETRO FOR SALE
$143.00

SAVE NOW
BUY LATER

DON'T MISS OUT!

$20 a week for 20 weeks

Is it a good deal?

What is your gut reaction?

☐ Good Deal
☐ Bad Deal

How much more will you pay with the payment plan?

$$\begin{array}{r} \$20 \\ \times\ \ \ 20 \\ \hline \$200 \end{array} \qquad \begin{array}{r} \$200 \\ -\ \$143 \\ \hline \$57 \end{array}$$

Thinkers should multiply $20 by 20 months. They should then subtract the original price from the final repayment price.

What is your informed opinion?
☐ Good Deal
☐ Bad Deal

Why or why not?
Thinkers will likely say this is a bad deal. The final price is much higher than the original price.

After the Lesson:
thinkLaw math labs include exit tickets for additional practice.

Instructor's Note:
thinkLaw math labs also include take-home student sheets that are available in English and Spanish. Encourage thinkers to try a mini version of the lesson at home with their families! Asking thinkers to reteach the lesson to their parents helps thinkers to practice synthesis and gives them additional practice with the material.

Buy Now, Pay Later

A **payment plan** is when a person buys an item but instead of paying the full price immediately, they make smaller payments until they pay off the full price.

It's almost always cheaper to pay the whole amount for an item up front. If you make smaller payments, you usually end up paying more than the original amount.

Why would a company charge people extra money to make smaller payments on an item?	Do you think that's fair? Why or why not?

PLAN

Payment plans are important.

Making smaller payments over time can be a way for people to get items they need. There are many items that most people cannot buy without a payment plan. Items like cars, houses, and other large purchases can be too expensive to pay for all at once. If there were no payment plans, most families would never be able to buy cars, houses, and other expensive items.

You can look at a deal and have a **gut reaction** if the offer is a good deal or a bad deal. But you can use math to move from a gut reaction to an **informed opinion!** Using your math skills will help you make better decisions with your money. Let's look at a few deals together.

TV FOR SALE
$369.99

SAVE NOW
BUY LATER

$75 Downpayment
$15 a week for 20 weeks

Great Deal Alert!

Is it a good deal?

What is your gut reaction?

☐ Good Deal
☐ Bad Deal

Compra Ahora, Paga Después

Un **plan de pago** es cuando una persona compra un artículo, pero en lugar de pagar el precio total de inmediato, hacen pagos más pequeños hasta que se paga el precio total.

Casi siempre es más barato pagar el total completo de un artículo por adelantado. Si realizas pagos más pequeños, por lo general terminas pagando más que el total original.

¿Por qué una compañía cobraría dinero extra a la gente por hacer pagos más pequeños por un artículo?	¿Crees que eso es justo? ¿Por qué sí o por qué no?

PLAN

Los planes de pago son importantes.

Hacer pagos más pequeños a lo largo del tiempo puede ser una manera para que las personas obtengan los artículos que necesitan. Hay muchos artículos que la mayoría de la gente no puede comprar sin un plan de pago. Artículos como automóviles, casas y otras compras grandes pueden ser demasiado caras para pagarlos por completo de una vez. Si no hubiera planes de pago, la mayoría de las familias nunca podrían comprar automóviles, casas y otros artículos costosos.

Puedes mirar una oferta y tener una reacción inicial a si la oferta es una buena o mala oferta. ¡Pero puedes usar las matemáticas para pasar de una reacción inicial a una opinión informada! Usar tus habilidades de matemáticas te ayudará a tomar mejores decisiones con tu dinero. Echemos un vistazo a algunas ofertas juntos.

TV EN OFERTA
$369.99

AHORRE AHORA
COMPRE DESPUÉS

$75 Entrada
$15 a la semana por 20 semanas

¡Alerta de Gran Oferta!

¿Es un buen negocio?

¿Cuál es tu reacción visceral?

☐ Buen Trato
☐ Mal Trato

REFRIGERATOR FOR SALE

$2473.99

$250 Down Payment

SAVE NOW BUY LATER

$50 a month for 60 months

Great Deal Alert!

Is it a good deal?

What is your gut reaction?

☐ Good Deal
☐ Bad Deal

How much more will you pay with the payment plan?

$50 × 60 = $3,000

$3,000 + $250 = $3,250

$3,250.00 − $2,473.99 = $776.01

Thinkers should multiply $50 by 60 months and add the $250 down payment. They should then subtract the original price from the final repayment price.

What is your informed opinion?
☐ Good Deal
☐ Bad Deal

Why or why not?
Thinkers will likely say this is a bad deal. The final price is much higher than the original price.

SMART PHONE FOR SALE

$1,599 NOW

No money down!

$33 a week for 72 weeks

SAVE NOW BUY LATER

Is it a good deal?

What is your gut reaction?

☐ Good Deal
☐ Bad Deal

How much more will you pay with the payment plan?

$33 × 72 = $2,376

$2,376 − $1,599 = $777

Thinkers should multiply $33 by 72 months. They should then subtract the original price from the final repayment price.

What is your informed opinion?
☐ Good Deal
☐ Bad Deal

Why or why not?
Thinkers will likely say this is a bad deal. The final price is much higher than the original price.

Name _____

Building a Community
A thinkLaw Math Lab Cool-Down

1. A toy store has 5 boxes of toys, with each box containing 25 toys. On the first day, the store sells 15 toys. How many toys are left to be sold?

$$5 \times 25 = 125$$

$$125 - 15 = 110$$

110 toys

Toys left: _____

2. A pet store wants to sell 400 bags of dog food in 5 days. On the first day, the store sells 60 bags of dog food. On the remaining four days, they sell an equal number of bags of dog food to reach their goal. How many bags of dog food are sold on day 4?

$$400 - 60 = 340$$

$$340 \div 4 = 85$$

Bags of food sold on day 4:   85 bags

3. Max wants to buy the same number of erasers for his 5 classmates. He has $24, and each eraser costs $3. How many erasers can Max buy for each classmate?

$$\frac{\$24}{3} = \frac{\$3 \times \text{the number of pencils}}{3}$$

Number of Erasers: 8 erasers

4. Emily goes to the bookstore to buy some books for her book club meeting. She buys 2 paperback books for $8.75 each and a hardcover book for $12.50.

$$\$8.75 \times 2 = \$17.50$$

$$\$17.50 - \$12.50 = \$5.00$$

How much more money did Emily spend on the hardcover than the paperback books? $5.00

5. In this lesson, you discovered the importance of using math to determine whether you're getting a good deal. What's the best argument for needing mental math skills, even though we have easy access to calculators?

A thinker may say that you still need to know what equation to put in the calculator and having the math skills helps make sure that what the calculator is saying makes sense.

6. How did going through this lesson change your perspective on the importance of developing computational math skills?

Student answers will vary. Thinkers may realize that when an equation is given in parts, like a payment over a few months, it's hard to know if you're getting a good deal. Having the ability to solve helps you make an informed decision.

Instructor's Note:
Within thinkLaw Math Labs, you'll find 5 Cool-down problems strategically integrated to serve as a demonstration of learning or a post-activity assessment.

The goal of a math lab is to empower students to redefine their math identity – reshaping how they perceive and interact with math.