

The Cost of a Personal Injury

A THINKLAW MATH LAB

OBJECTIVE	Thinkers will use a formula to determine payout in personal injury lawsuits.

Lesson Outline

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- 1. In the thinkstarter, thinkers will be introduced to the concept of quantifying. Thinkers will look at 4 examples of quantification.
- 2. Thinkers will be introduced to a formula commonly used to determine the payout in personal injury lawsuits.
- 3. Thinkers will examine 3 real-life legal cases. Thinkers will determine the cost of the injury and its scale. Thinkers will use these 2 numbers with the formula to determine how much should be paid to the plaintiffs.
- 4. In the thinkBigger, thinkers will consider 4 different people. What is the best argument that each person should or should not be the person to determine the scale of an injury?



Indiana Academic Standards

3.CA.2: Solve real-world problems involving addition and subtraction of multi-digit whole numbers (e.g., by using drawings and equations with a symbol for the unknown number to represent the problem). (E)

3.CA.7: Solve real-world problems involving whole number multiplication and division within 100 in situations involving equal groups, arrays, and measurement quantities (e.g., by using drawings and equations with a symbol for the unknown number to represent the problem). (E)

4.CA.1: Multiply a whole number of up to four digits by a one-digit whole number and multiply two two-digit numbers, using strategies based on place value and the properties of operations. Describe the strategy and explain the reasoning. (E)

5.CA.2: Solve real-world problems involving multiplication and division of whole numbers (e.g., by using equations to represent the problem). In division problems that involve a remainder, explain how the remainder affects the solution to the problem. (E)

E: Essential IDOE standards

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



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.



Instructor's Note:

Numbers help us communicate more clearly. We quantify things because it helps us to understand them better. For example, if we know that there are 20 students in the classroom, we can better plan our lessons and make sure that we have enough materials for everyone.

We can also use numbers to compare different things. For example, we can compare the number of students in our class to the number of students in another class.

Probing Questions:

- Have you ever used a pain scale? Did it help you to describe how you were feeling? Why or why not?
- Do you think it is easier to understand "My headache is a 10" or "I have a really bad headache"? How do the numbers help?
- What are some of the challenges of quantifying things?
- What are other ways we can quantify?
 - How can we quantify the success of a school?
 - How can we quantify the impact of a new rule?
 - How can we quantify the benefits of a new technology?
- How can quantifying help you plan?
 - How would quantifying information help you reduce traffic accidents in your city?
 - How would quantifying information help a coach improve their team?

Name _

The Cost of Personal Injury

A thinkLaw Math Lab

thinkLaw

When someone has a headache can you tell how much pain they are feeling? Pain can be tricky because no one can see pain. **Quantify** means to explain something in numbers. Quantifying helps us to communicate in a way that other people can understand.

Emergency rooms at the hospital often give people a pain scale.



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Why do you think hospitals want patients to quantify their pain? How does that help doctors?

The number system helps patients communicate how they're feeling

with doctors. Using numbers instead of just using words helps patients be

more specific.

Can you quantity the following?				
Can you quantify the number of students in our class?	Can you quantify the amount of water in my water bottle?	Can you quantify the distance from your home to school?		
Responses will vary.	Hold up a water bottle. If no water bottle is available, a coffee mug or soda cup will work as well.	Thinkers may use travel time to quantify. Thinkers may also name blocks or miles.		

thinkStarter Summary

Quantifying helps us to make decisions. In today's thinkLaw Math Lab, you will look at how quantifying is used to decide how much should be paid in a personal injury case.

The Cost of a Personal Injury

A **personal injury** is a type of harm that can happen to your body. The injury can be caused by something like a fall, car accident, or dog bite. Personal injuries can be small, like a bruise or a scrap, or they can be more serious, like a broken bone or head injury.



There is a math equation that is commonly used to decide how much a defendant should pay for causing a personal injury.

The payout is the total cost of the injury (bills, time off work, etc.) times 1.5-5, depending on the scale of the injuries.

Cost x Scale of Injury = Total Payout

Blame it on the Rain (Israel, 1996)



A woman in Israel watched a popular meteorologist named Danny Rup predict the weather. Danny predicted sun for a day that ended up being rainy. The woman claimed that Danny's forecast caused her to leave her house lightly dressed. As a result, she caught the flu, missed 4 days of work, and suffered from stress.

Assume the woman wins her case. How much should she be paid?

Probing Questions:

- What is a personal injury that is not serious?
- What is a personal injury that is very serious?
- What is an example of a personal injury that is your fault? What is an example of a personal injury that is not your fault?
- Should the payout for an injury always be the same? Why or why not? What factors need to be considered with personal injuries?
- What are the advantages and disadvantages of using a math equation to determine the value of a personal injury lawsuit?

Instructor's Note:

First, read the summary of the case. Ask thinkers to share their gut reactions. Talking about gut reactions is a good way to develop critical thinking dispositions. Everyone has a gut reaction. Gut reactions are a combination of everything thinkers have learned in and out of school.

- Have you ever been caught off guard by a weather forecast that was incorrect? What happened? How did that impact your thinking in this case?
- Have you ever been sick with the flu? What was your experience like? How did that impact your gut reaction to this case?

Probing Questions:

- What would the world look like if people could sue meteorologists for incorrect weather forecasts?
- Why is the weather difficult to predict?
- What could the woman do to prevent this situation in the future?



Fourth, multiply the cost times the scale to determine the total payout. Thinkers will have different answers depending on the cost and scale they chose.

Finally, analyze the total payout. Do you believe the amount is fair? Why or why not? Thinkers may choose any response but must explain their reasoning. Allow thinkers to share their final response with the class.

• What was the range of the class's responses? The **range** can be found by subtracting the smallest amount from the largest amount. Does the range surprise you? Why or why not?

Instructor's Note:

The rain case was thrown out. This means the court never heard the case. Anyone can file a lawsuit, but the court decides if they will hear a case.

• Why do you think this case was thrown out?



Thumb injuries may not seem very serious, but Cedrick needed to have

surgery, and he missed half a year of work. His injury must have been

serious.

Nothin' But a Bad Time (Michaels v. CBS, 2009)



In 2009, Rocker Brett Michaels performed his song "Nothin' But a Good Time" at the CBS Tony Awards. As Brett turned to leave the stage, he hit his face on a set piece that was being lowered to the floor. Brett was knocked to the ground. His accident was shown live on TV.

Brett broke his nose and cut his lip. Ten months later, Brett was rushed to the hospital with a bad headache. Brett had bleeding in his brain that he believes was caused by the accident. He later suffered from a stroke. The rockstar had to cancel several upcoming concerts to complete his treatment. SEL Instructor's Note: Pain and suffering are always a consideration. Pain and suffering refers to the physical and emotional pain someone experiences as a result of an injury.

- What emotional pain might someone experience as the result of an injury?
- Why is it important for people to take care of their emotional pain?
- What might happen if someone does not take care of their emotional pain?

Instructor's Note:

Cedrick won his case. He was awarded \$3 million.

- Do you think that is a reasonable amount? Why or why not?
- How does this amount compare to your amount?

Probing Questions:

- If someone told you they injured their thumb, what would be your gut reaction? Would you think their injury was serious? Why or why not?
- If you could not use 1 thumb for a long period of time, how would that impact your life? What would be difficult to do because of the injury?
- What problems could be created when someone cannot go to work for 6 months? Should those expenses be included? Why or why not?
- What other appointments do you need before or after surgery? What else do you need after surgery?
- How can someone address their stress? What do they need to address their stress?
- Have you ever hit your head? What happened? Can you hit your head and have a minor injury? Can you hit your head and have a major injury? How hard must Brett have hit his head?

Instructor's Note:

You can watch a clip of Brett hitting his head on YouTube. https://bit.ly/46IsTqH

SEL Instructor's Note:

After the injury, some presenters in the show make jokes about the accident. Actor Neil Patrick Harris said, "His number gave headbanging a whole new meaning."

- Why do you think people make jokes about the accident?
- How do you think the jokes made Brett feel?
- How can you know if it is appropriate or inappropriate to make a joke about an accident?

Probing Questions:

 Brain bleeds are very serious. Brett could



have died. How does that impact your scaled rating?

- You can still watch a video of this accident even though it happened over 14 years ago. How might that be stressful for Brett?
- What could CBS have done to prevent this accident?
- How much money do you think artists make from concerts? What financial impact would cancelling a concert have? What other people would be impacted? What other people would lose money?

Instructor's Note:

Brett settled with CBS. They paid him an undisclosed, or secret, amount of money.

Sometimes thinkers think that lawsuits that end in settlement are anticlimactic. Thinkers often like to know how judges would decide a case. But only about 2% of all lawsuits go to trial. Most lawsuits are settled outside of court. Why? It is always in your best interest to solve your own problems. If you turn your problem over to a third party, you risk not agreeing with their decision.

thinkBigger

In our thinkLaw Math lab, we quantified the seriousness of each **plaintiff's**, or person bringing the lawsuit, injury.

Who should get to quantify the seriousness of an injury? What is the best argument for and against each of the following people?

The Person Who Was Injured		The Person Responsible for the Injury	
Why this person should decide.	Why this person should NOT decide.	Why this person should decide.	Why this person should NOT decide.
The person who	The person who	The person who	The person who
was injured	was injured	was responsible	was responsible
knows how	might	may know the	will not want to
much they	exaggerate how	circumstances of	pay out very
suffered.	much they	the injury.	much money.
	suffered to get		
	more money.		
A Jury		A Doctor	
Why this person should decide.	Why this person should NOT decide.	Why this person should decide.	Why this person should NOT decide.
A jury is impartial.	Juries are not	A doctor would	The doctor may
This means that	medical experts.	understand the	not know how
they can look at	They may not	extent of an	much money
the facts. They	realize how	injury and how	the injured
are not directly	much pain a	long it will take	person lost
involved with the	person may	someone to	because of the
injury.	experience after an injury.	recover.	injury.

What is your final vote? Who should get to quantify someone's suffering in a personal injury Why? You may choose someone listed above or another person that is not listed.

Thinkers may choose any response. Thinkers may say that it would be

best to have a doctor or other medical professional quantify the

seriousness of the injuries.

Instructor's Note:

Take a few moments to discuss bias. **Bias** is when we prefer one thing over another. Our preference can make it hard to see things in a way that is fair to everyone. Bias can have a negative impact on our decisions and actions. It can lead to the unfair treatment of others.

All people have biases. One thought exercise to help us with our bias is to think about a situation from different perspectives.

Think about the biases of the people in the chart.

- How might the person who is injured be biased? They may exaggerate their injury. They may be trying to get the most money possible.
- How might the person responsible for the injury be biased? They may not think they are responsible. They may be trying to pay out the least amount of money.
- How can a jury be biased? Juries are ordinary people. If there is someone in the jury who suffered a severe injury because of the actions of another person, they may be biased against the person responsible for the injury because of their personal experience.

Probing Questions:

- Would you want someone else to rate your level of suffering? Why or why not?
- What is the best, fairest way to handle personal injuries? Why?

After the Lesson: Name thinkLaw math labs The Cost of Personal Injury include exit tickets for A thinkLaw Math Lab additional practice. The payout is the total cost of the injury (bills, time off work, etc.) times 1.5-5 depending on the scale of the injuries. Cost x Scale of Injury = Total Payout Instructor's Note: Explosive Drink (Escola v. Coca Cola Bottling Co., Supreme Court, 1944) Gloria won her case. This Gladys Escola was a server in a restaurant. Gladys was handling case went all the way to glass bottles of Coca-Cola when one of them exploded in her the Supreme Court. hand. The pieces of glass caused Gladys to suffer a five-inch-deep cut on her hand. Gladys had blood vessels, nerves, and muscles severed in her thumb and in the palm of her hand. Assume the Gladys wins her case. How much should she be paid? The woman: How much do you think this injury cost? Medical bills Thinkers should estimate the cost. This cut Pain and sufferina Missed work would be very painful and make it difficult for Gladys to use her hand. \$3.000 Cost x Scale of Injury = Total Payout Quantify the Seriousness of the Iniury 2 5 \$3,000 These responses will all vary based on З х what number thinkers select for cost and \$9.000 scale. What is the total payout? Do you believe that amount is fair? Why or why not? Thinkers may say that this number should cover most of the woman's expenses because the case occurred in 1944. Instructor's Note: thinkLaw math labs also The Cost of Personal Injury El Costo de las Lesiones Personales include take-home student A thinkLaw Math Lab injury is a type of ham sheets that are available in English and Spanish. Encourage thinkers to try a mini version of the lesson at Cost x Scale of Injury = Total Payou Costo x Escala de Lesión = Pago Tota home with their families! Asking thinkers to reteach the lesson to their parents itak aana su caso, 40uánto se le debi helps thinkers to practice synthesis and gives them additional practice with the material.

Not Your Best Friend (Harris v. McGraw, California, 2011)

Janet Harris went to visit her friends, Phil and Robin, at their home. While at their home, Janet was bitten by Phil and Robin's dog. A few months later Janet's dog bite became severely infected, causing a loss of hearing and a hand tremor.



Assume Janet wins her case. How much should she be paid?



lack of income for a bit. Other thinkers may feel that the infection is not

the fault of the dog owners, and the amount is unfair to the owners.

Instructor's Note:

The Phil in this case is Dr. Phil. Janet did not file a claim with McGraw's home insurance. The McGraw's paid for Jane to take a vacation to Hawaii as an apology.

Janet sued Dr. Phil and his wife for \$7 million.

The case was settled outside of court.

- Is your opinion on this case the same after you learned the defendant is a celebrity?
- Does accepting the vacation cancel Janet's other financial needs? Do you think it was okay for her to accept the vacation and still file a lawsuit? Why or why not?

Name				
The Cost of Personal Injury				
A thinkLaw Math Lab Cool-Down				
 Kate has 36 apples. Tom has T apples. If Kate has 4 times as many apples as Tom, create an equation that shows how many apples Tom has. 36 = 4 x T 	 Let's say Emily went shopping and bought 4 jackets and 3 pairs of jeans for \$120. Each jacket costs the same amount, and each pair of jeans costs the same amount. The price of a pair of jeans is \$20. What is the cost of 1 jacket? 20 120 			
	<u>X 3</u> - 60 $60 \div 4 = 15$			
How many candies	60 60 Cost of Jacket: \$15			
 Maria has \$75 and wants to buy packs of markers for her art project. Each pack of markers costs \$6. She wrote the equation: 	4. Rebecca bought 5 sleeping bags and 2 tents for a camping trip, spending between \$150 and \$200. Each sleeping bag costs the same amount, and each tent costs the same amount. The price of a tent is \$40.			
75 ÷ 6 = 12 R 3	What is the least amount Rebecca could have spent on a sleeping bag? What is the most Rebecca could have spent on a sleeping bag? \$200			
What does the number 3 represent in terms of	40 - \$ 80 - \$ 80			
Maria's money?	<u>X \$2</u> \$120 \$70			
3 represents the amount of money Maria	\$80 \$120 ÷ 5 = \$24 \$70 ÷ 5 = \$14			
has left after buying as many packs of markers as she can.	Least amount Alyssa could've spent: <u>\$14</u>			
	Greatest amount Alyssa \$24			
5. You have the problem: Jack has \$53, and each umbrella costs \$12. How many umbrellas could he buy? What is the most common mistake a student will make when solving?				
Student answers will vary. A thinker may say that students might forget to round down because				
there is a reminder. You can't buy a part of an umbrella, the answer would be 4.				
6. How did going through this lesson show that using equations to represent a problem is useful?				
Student answers will vary. Thinkers may say that equations help us organize information from				
a story problem so we can solve. They are also	helpful if we have a missing part or number.			

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 help students redefine their math identity – reshaping how they perceive and interact with math.