

STUDY GUIDE

WINNER OF THE 2001 PULITZER PRIZE
and TONY AWARD FOR BEST PLAY

{ *proof* }^x *by David Auburn*

COMPANY OF FOOLS
A PROUD PART OF SUN VALLEY CENTER FOR THE ARTS

Company of Fools
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WELCOME TO THE LIBERTY

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The information and classroom activities in this study guide support Idaho State Department of Education Common Core Standards in English Language Arts and Literacy for grades 9-12.

Dear Educator,

We're delighted to welcome you and your students to Company of Fools' production of **Proof**. Working with local schools is a fundamental part of Company of Fools' and The Sun Valley Center for the Arts' mission.

We hope this study guide will serve as a useful resource for you as educators and parents. It is designed to enhance student learning both before and after the performance, to support your classroom lesson plans and deepen the educational value of your students' experience. The information and classroom activities in this study guide support Idaho State Department of Education Common Core Standards in English Language Arts and Literacy for grades 9 - 12.

Thank you for the sharing the magic of performing arts with your students!

- Company of Fools



Hyde Park neighborhood in Chicago

HOW TO BE A GREAT AUDIENCE

Live theatre productions are exciting and vibrant. Actors, audience, and backstage technicians are all part of the experience. As audience members, your students will play an important role in the overall atmosphere of the performance.

To ensure that everyone has a great time at the theatre, please share the following expectations with your students:

- Please remain seated throughout the entire performance.
- Try not to rock back and forth in your seats. They can—and sometimes do—break.
- Restroom visits are best made before leaving school. The theatre's restroom facilities are very limited. **Proof** is 2 hours in length with a 10 minute intermission (a 10-minute Q&A session will follow).
- Please do not talk or whisper during the performance. You might think whispering during the show is okay. But if everyone in the audience whispers, it will be disruptive to the performers.
- Do not drink, eat, or chew gum during the performance.
- Turn cell phones to the "silent" setting. And absolutely no texting.
- Keep your feet on the floor, not on the seat in front of you.

We hope you and your students will enjoy your visit to the Liberty Theatre!

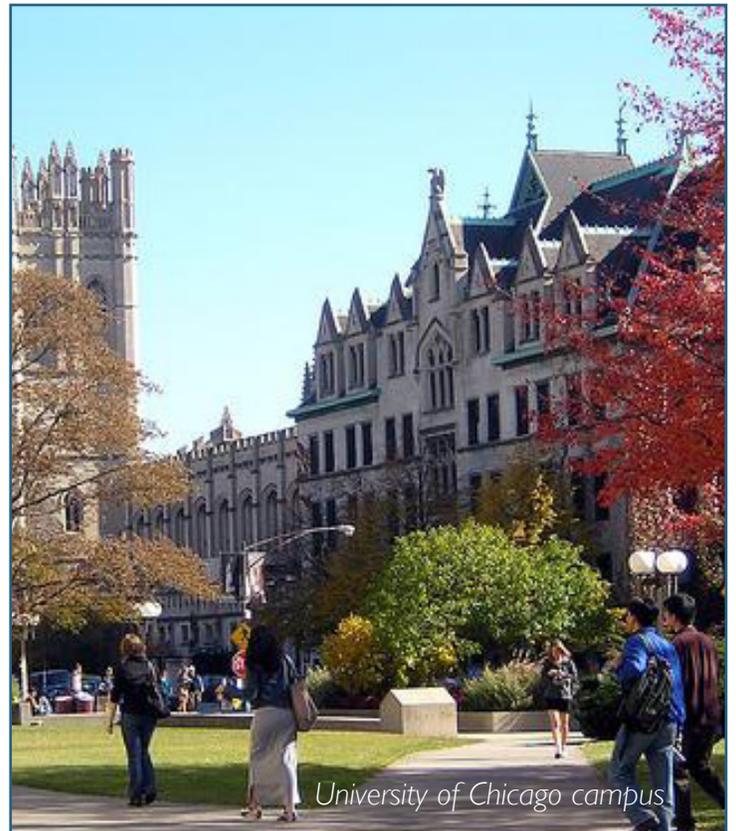
Teacher Tip: Spark conversation with your students by asking them to remember a time when they were in an audience. Was it a great audience or were there distractions? Have students make their own criteria for what a GREAT audience is and have them share their thoughts.

PLAY SYNOPSIS

Proof opens with Catherine, the twenty-something daughter of an esteemed mathematician at the University of Chicago, who has just laid her father to rest after a prolonged mental illness. Robert, Catherine's father, had once been a gifted, ground-breaking professor. But as he lost his sanity, he lost his ability to communicate coherently with the outside world.

The audience quickly learns that Catherine is brilliant in her own right, but she fears that she might possess the same mental illness that ultimately incapacitated her father. To make matters worse, her older sister wants to take her to New York, where she can be cared for, potentially in an institution. While Catherine and her sister argue, Hal, a devoted graduate student of Robert's, searches through the professor's files in hopes of finding a mathematical discovery that will keep his mentor's reputation intact despite the madness of his final years.

Hal discovers a pad of paper filled with profound, cutting-edge calculations. He incorrectly assumes the work is Robert's, but in truth, Catherine wrote the mathematic proof, however no one believes her. Ultimately, she must prove that the proof belongs to her.



THE PLAYWRIGHT DAVID AUBURN



David Auburn was born in Chicago, Illinois on November 30, 1969 and studied political philosophy at the University of Chicago. His writing career began when he joined a comedy troupe as an extracurricular activity and began contributing sketches to the group's repertoire. Auburn graduated in 1991 and was offered a writing fellowship by Amblin Productions, a Los Angeles-based company owned by filmmaker Steven Spielberg. Auburn took the opportunity and moved to Los Angeles to perfect his craft. After the fellowship ended, he moved on to New York, where he attended the Julliard School's playwriting program. He began to write plays in earnest and had several of them produced by small New York theaters throughout the following years. Along with his short plays and *Proof*, Auburn is best known as the author of *Skyscraper*, a darkly comedic play that ran off-Broadway in 1997. He wrote the screenplay for the movie version of *Proof*, starring Gwyneth Paltrow and Jake Gyllenhaal, in 2005, as well as for the movie *The Lake House*, starring Keanu Reeves and Sandra Bullock, in 2006.

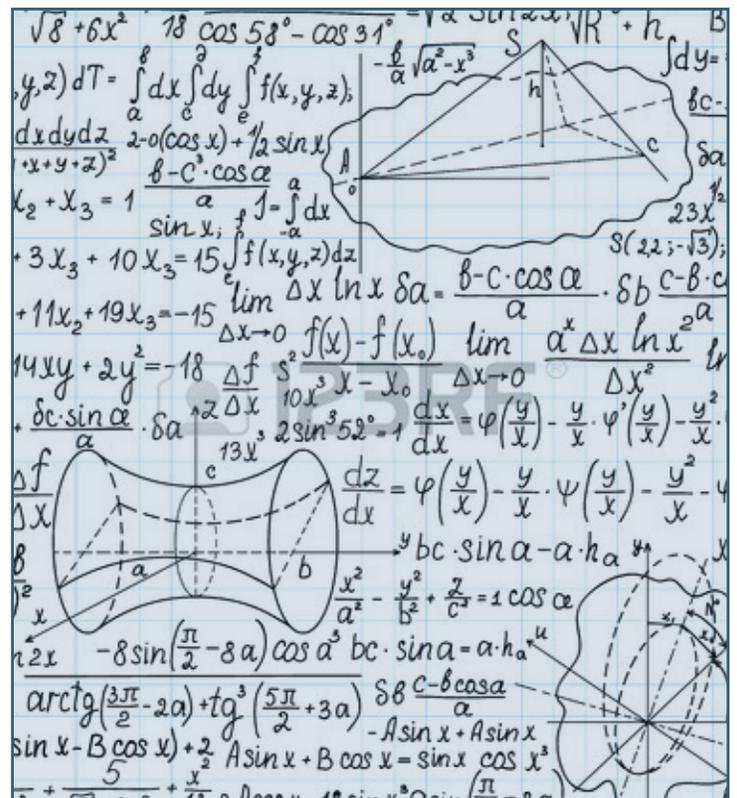
Auburn debuted as a movie director with *The Girl in the Park*, starring Sigourney Weaver, Kate Bosworth, and Keri Russell, in 2008. Auburn's latest play, *The Columnist*, premiered at New York's Manhattan Theatre Club in April 2012.

WHAT IS A PROOF?

PROOF. The word "proof" comes to us from an Indo-European root meaning "through" or "forward." From this root comes one of the word's primary English meanings: a test or trial in which a person or object is put through an ordeal, or placed in a forward position in the face of danger. Thus we say of someone, "He has been proven in battle," and we use phrases such as "bullet-proof" or "rust-proof," or "the proof of the pudding is in the eating."

A second sense of "proof" means the deployment of evidence or reasoning to establish a fact or validate theory. A "proof" in this sense is a demonstration that something is actually the case. The meaning of "proof" in *Proof* continually oscillates back and forth between these two senses, sometimes figuring as a test or ordeal--that is to say, an emotional trial--and at other times appearing as an exercise in logical demonstration.

In *Proof*, Auburn found a witty, engrossing way to explore the notion of "proof" in several different senses – in the idea of a mathematical proof with its particular iron-clad inevitability, the notion of establishing the authorship of an intellectual work, and the daily proof that people seek to reassure themselves of the stability of reality and of their personal relationships. The scripts explore the counterpoint between pure logic and the emotional complexities of everyday life, and they elucidate the meaning of proof in different settings.



PROOF OF WHAT HAPPENS WHEN YOU JUST LET GO

by David Auburn (*Los Angeles Times*, June 4, 2002)

Part of writing a play is letting it go. It's both exhilarating and a bit frightening when you turn your script over to the director and the actors who will try to make it live. It's a risk—you hope you'll get lucky. With *Proof*, I did. But when I let this play go I had no idea how far it would travel. The play has been done in London, Tokyo, Manila, Stockholm, Tel Aviv and many other cities; the definitive New York production, directed by Daniel Sullivan, opens in Beverly Hills this week at the Wilshire Theatre.

Proof started with two ideas. One was about a pair of sisters: What if, after their father's death, they discovered something valuable left behind in his papers? The other, more of a visual image than anything else, was about a young woman: I saw her sitting up alone, late at night, worried she might inherit her father's mental illness.

While trying to see if these ideas fit together, I happened to be reading *A Mathematician's Apology*, the memoir by the great Cambridge mathematician G. H. Hardy. It's probably the most famous attempt to explain the pleasures of doing math to a nonmathematical audience. One passage particularly startled me. "In a good proof," Hardy wrote, "there is a very high degree of unexpectedness, combined with inevitability and economy. The argument takes so odd and surprising a form: the weapons used seem so childishly simple when compared with the far-reaching consequences; but there is no escape from the conclusions."

That sounded like a definition of a good play, too. Math was alien territory to me—I had barely made it through freshman calculus in college—but I decided to set my story in Hardy's world.

A mathematical proof became the "thing" the sisters find: my protagonist, Catherine, became convinced that she may have inherited her father's talent—he was a legendary mathematician—as well as his illness. With these elements in place, and feeling inspired by the meetings with the mathematicians I'd begun to have, I was able to finish a draft of the play quickly, in about six weeks. My first play, *Skyscraper*, had been commercially produced off-Broadway in 1997. Its run was short, but long enough for the literary staff at Manhattan Theater Club to catch a performance. They had invited me to submit my next play—a good break for me, since MTC is the best venue for new work in the city. I sent *Proof* to them. A few weeks later, it had a star, Mary Louise Parker, a director, Daniel Sullivan, and an opening date for what I assumed would be a six-week run.

Proof has now been running for two years. In that time, I've often been surprised at the responses it has generated. At a New York University conference on the play, a panel of omen mathematicians used it to discuss questions of sexism and bias in their professions. After a performance on Broadway I got a note from an audience member backstage: "My daughter is just like Catherine," it said. "I can't communicate with her. Can you help me?"

In Chicago, a woman confronted me after a book signing. She told me her father had been a mathematician who'd lost his mind and she'd spent her whole life caring for him. "This is the story of my life," she said. "How did you know?"

The answer, of course, is that I didn't, any more than I intended the play to speak directly to the concerns of female academics, or could tell a stranger how to break through to his daughter. When you let a play go, you also take the risk that it will take on associations for people that you didn't intend and can't account for.

That risk is the prerogative of art, however, and of the theater in particular. The theater affects us more directly, and unpredictably, than any of the other arts, because the actors are right there in front of us, creating something new every night. "Unexpected and inevitable." Which makes it all worth the risk.



Genius is typically regarded as a positive thing. Those who have genius are recognized for how they excel, for how intelligent they are, for how they affect progress. Genius is spoken of with reverence, is made a goal of scholars – though most often an unattainable one – and is respected. But genius is often seen in partnership with a not-so-liked trait of the human mind: insanity. Mental defect is often embodied within the same person as creativity, and in fact the two are often associated, or, in some instances, even equated.

Why do we make this link between genius and insanity? Partly, as some of the examples above demonstrate, because it exists. Many gifted people have also been tragically deranged. Perhaps because the same twist in the brain that makes for exceptional talent also opens the door to mischief. After all, who can draw a clear line between extreme originality and madness? Innovative works of art or incandescently unconventional scientific theories have routinely been dismissed as crazy.

In *Proof* the main character, Catherine, fears for her sanity, in part because her father was mad, and genetics is, after all, a powerful predictor of one's own fate in life. But her fears are all the greater because she also shares her father's genius. Her sister, Claire, who is intellectually undistinguished, has no worries about her mental health. And so we watch as a young woman struggles to be both brilliant, like her father, and normal, like her sister – to achieve the balance that our culture tells us may be impossible.

John Nash, featured in the film *A Beautiful Mind*, was a brilliant mathematician who contributed significantly to game theory. He was also a paranoid schizophrenic.

Vincent Van Gogh, one of the world's greatest painters, is famous for cutting off his own ear, drinking turpentine, and other odd behaviors until he eventually committed suicide.

Ludwig van Beethoven, the composer, had an abusive childhood and slowly went deaf in his adult life. His letters to family members show his struggle with depression.

Edgar Allan Poe, famous author, had a drinking problem and was plagued with thoughts of suicide. Modern scholars believe he may have been bipolar.

Ernest Hemingway Winner of the Pulitzer Prize (1952), and the Nobel Prize in Literature (1954), the novelist's suicidal depression is examined in *The True Gen: An Intimate Portrait of Ernest Hemingway by Those Who Knew Him* by Denis Brian

Mental illnesses are medical conditions that disrupt a person's thinking, feeling, mood, ability to relate to others and daily functioning. Just as diabetes is a disorder of the pancreas, mental illnesses are medical conditions that often result in a diminished capacity for coping with the ordinary demands of life.

- Serious mental illnesses include major depression, schizophrenia, bipolar disorder, obsessive compulsive disorder (OCD), panic disorder, post traumatic stress disorder (PTSD) and borderline personality disorder.
- Mental illnesses can affect persons of any age, race, religion, or income. However, mental illnesses are treatable. Most people diagnosed with a serious mental illness can experience relief from their symptoms by actively participating in an individual treatment plan.
- In addition to medication treatment, psychosocial treatment such as cognitive behavioral therapy, interpersonal therapy, peer support groups and other community services can also be components of a treatment plan and that assist with recovery.

ADDITIONAL RESOURCES

PLAYS BY DAVID AUBURN

Are You Ready?
Damage Control
Fifth Planet
Miss You
Three Monologues
We Had A Very Good Time
What Do You Believe About The Future?
Proof
Skyscraper
tick, tick...BOOM! (Script consultant)
The Columnist
Lost Lake

FILMS BY DAVID AUBURN

The Lake House (2006)
Proof (2005)

Claire, 29, is Catherine's older sister. Unlike Catherine, Claire is not a genius, but she has worked hard to achieve her successes and has been supporting her father and sister financially for some time. Claire helped pay for Catherine's college, and she is worried about her sister's mental health.

Catherine, 25, is the daughter of Robert and sister of Claire. She delayed her college education so she could stay at home with her father while he was ill. After his death, she finds herself caught between where she wants her life to go and where it has been.

Robert, father of Catherine and Claire, is a retired professor of math at the University of Chicago. Robert left his position when mental illness overtook him. Robert also suffers from Graphomania, meaning he has an obsessive need to write.

Hal, 28, is a former student of Robert's. He has a great deal of respect for Robert as a mathematician and once dreamed he would contribute to mathematics in similar ways, but now feels he is too old to contribute at all. Hal's intentions are unclear as he searches through Robert's old notebooks; although he claims that his search is for the sake of mathematics, Catherine suspects he may have ulterior motives.

CAST OF CHARACTERS

Robert	Keith Moore*
Catherine	Hanna Cheek*
Hal	Neil Brookshire*
Claire	Cassandra Bissell*

PRODUCTION STAFF

Direction	Denise Simone
Stage Management	K.O. Ogilvie*
Set Design	Joe Lavigne
Costume Design	John Glenn
Light Design	Lynn Coleman
Sound Design	Ted Macklin



* Appearing courtesy of Actors' Equity Association -
The Union of Professional Actors and Stage
Managers in the United States

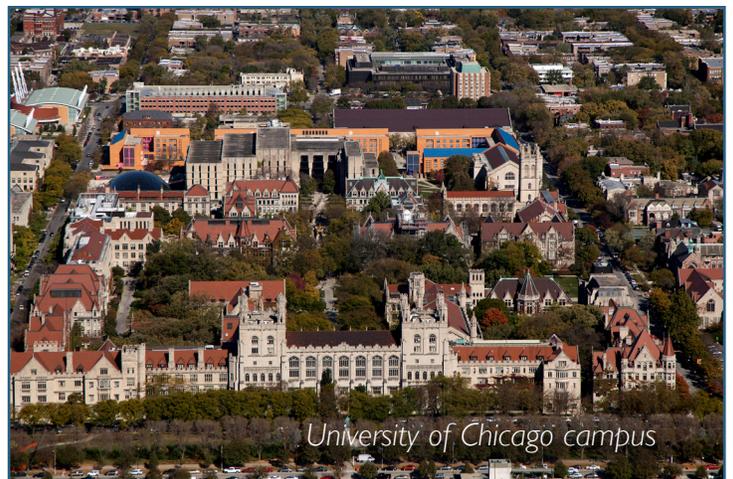
Consider asking your students the following questions for discussion:

1. Think about the "proof" each character needs to complete for him/herself. What do the characters in *Proof* need to prove, either to themselves or to each other?
2. Which characters do you sympathize with?
3. Did Catherine inherit her father's genius? Did she inherit his illness?
4. Do you believe Catherine wrote the proof? Why or why not?
5. What do you think Catherine means when she refers in the play to "proofs like music?" Why is she comparing math to music?
6. How does the proof represent Catherine's need for control?
7. Does Claire understand her sister's needs?
8. Do you think Hal has good intentions looking through Robert's notebooks? Is he trustworthy with Catherine's proof?
9. What do you think Claire's relationship with Robert was like before he died?

LEARN MORE ON LINE

http://www.pbs.org/newshour/bb/media-jan-june01-auburn_04-20/

<https://www.youtube.com/watch?v=RbtulqsWbNY>

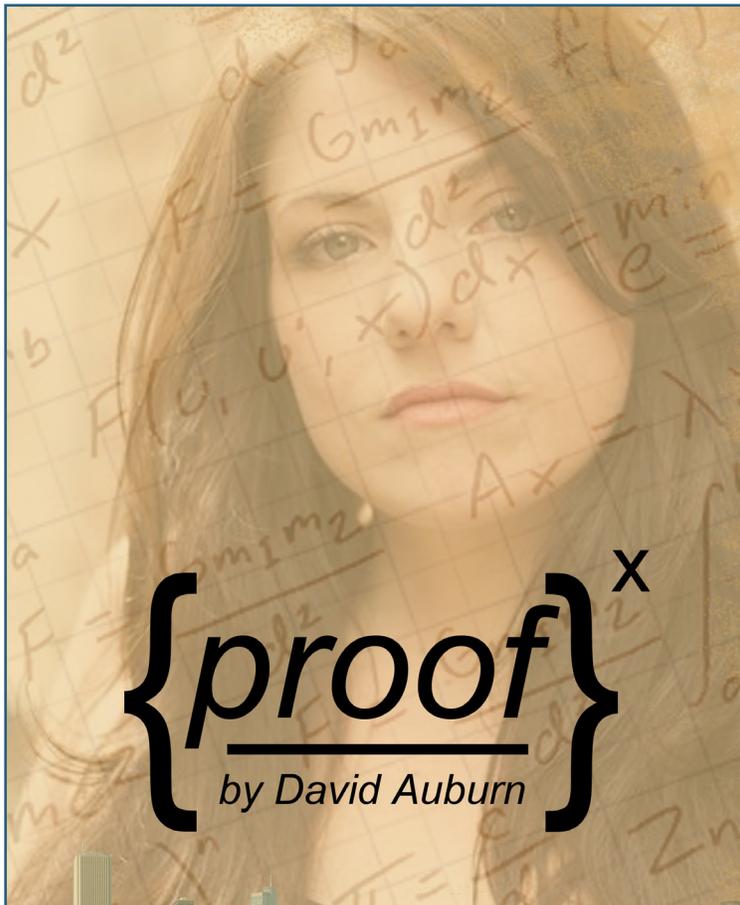


WRITE A REVIEW OF PROOF

1. Include your name, grade and school.
2. What remains in your memory from the play that you saw?
3. How did the designers make the performance more exciting? (think about the set, lights, sounds, costumes and props)
4. Who were your favorite characters and why?
5. Compare and contrast the themes of the play to an adventure movie or the short story.
6. Give your review a headline.

Send your review of PROOF to:

Company of Fools
P.O. Box 656
Sun Valley, Idaho 83353



TEACHER FEEDBACK: PROOF

1. Did using the Study Guide add to your theatre experience?
 - a. YES
 - b. SOME
 - c. NO
2. How much of the Study Guide did you read?
 - a. Didn't have time
 - b. About a quarter
 - c. All
3. What do you think of what you read? (Mark as many as apply)
 - a. Useful
 - b. Nothing New
 - c. Enjoyable
 - d. Not for my students because _____
4. Did you get the Study Guide in time to prepare your students to see the play?
 - a. YES
 - b. NO
5. What sections of the Study Guide did you find most important? _____

6. How did the experience of preparing for and then seeing the play impact your students? _____

7. Did you spend more time working with the material BEFORE or AFTER you saw the play?
8. Comments: _____

PLEASE FAX THIS TO 788-1053
or Mail to Company of Fools,
P. O. Box 656, Sun Valley, Idaho 83353

