210B QUOTES

- "You know, there's this horrible book on linear algebra by Sheldon Axler. The title is wrong *and* it's gramatically incorrect. The book really ought to be called *Linear Algebra Done Incorrectly*."
- "In the Russian language, there is no word for 'the.' Of course, this means Bill Clinton can't speak Russian... oh wait that was 'is.' "
- "It's his week to make tea, so he has his priorities straight."
- "Regarding Russian, I remembered, wait! My twin brother speaks Russian. He said that they say 'choose' a splitting field, or use subtleties of word order. The point is, they lost, and everything is done in English."
- "You can think about determinants, but who the hell has ever computed a determinant of a 5×5 non-triangular matrix? Okay, well, outside of a physics class."
- "The point is, this set-theory stuff is so boring."
- "So you go into that dark closet that you never want to look into, and pull out Zorn's lemma. It's a consequence of the Axiom of Choice, which you can read about on the Internet."
- "I always feel queasy about transfinite induction. Measure theory is great because it allows someone who is bad at analysis to do it. Zorn's lemma is like that for set theory. I have a psychological block against transfinite induction. Anyways."
- "Don't let anyone think you believe Zorn's lemma is interesting."
- "I have jury duty next week. Hopefully the usual trick will get me out of it, you know, 'they sure look guilty to me!' You know what they say, you have the right to be tried before a jury of your peers... who are too stupid to get out of jury duty."
- "So there's this lady in Oakland who is the major supplier in the US for boxes of high-quality Japanese chalk. The colored stuff erases really well... once, I drove up there and filled my entire trunk with the stuff."
- "Lawyers love to debate the finer points of the English language, but actual unambiguous expressions are up for debate."
- "See, Akshay's handwriting is much nicer than mine. I apologize."
- "Some might call the normal closure the 'Galois closure,' but this is illegal, since f might not be separable. Well, not actually illegal. I know of no such law on the books"
- "We exploit the fact that we don't speak Russian. Well, I don't speak Russian. Anyways."
- "Are you not allowed to have class on MLK day?" "Let me tell you another story..."
- "On Wikipedia, which is a repository of junk..."
- "Some confused freshman once showed up to Math 215B, took notes diligently for 20 minutes, and then asked, 'Excuse me, is this Math 51?' "
- "Thankfully the times didn't overlap, so I didn't have to violate the Heisenberg Uncertainty Principle"
- "It's kind of addicting, these arguments with algebraic closure and uniqueness."
- "A new theory succeeds not because it convinces adherents of the old theory but because they die... but Wikipedia slows this process. This is one of the downsides of the Internet."
- "As MLK once said, 'Free at last, free at last!' "
- "So I was once in Barnes and Noble. No, Borders. The original one in Ann Arbor. Remember Borders? Remember books?"
- "Did I tell you about the time I cheated on the driver's test for California? I'll tell you some other time."
- "There's also a notion of a commutative ring being 'excellent,' but that has nothing to do with this."
- "In a CS class, they call finite fields Galois fields, $\mathrm{GF}(p^n)$. He invented both groups and fields; not bad for a day's work at home before he got shot."
- "There were these two representation theorists, Steve Rollis and someone else. They were giving a talk about complicated representations at a conference and Serre asked for an example... it took them another year to prove this wasn't the theory of the empty set."
- "We tend not to be fans of circular arguments here... though in politics it works quite well."
- "The proof won't fit in the box, so we'll exploit the eraser technology."
- "But this Japanese chalk is pretty damn good."
- "Emil Artin apparently had a bee in his bonnet about the Primitive Element Theorem."
- "It's like using a basis to prove something in linear algebra or something disgusting like that."

- "Where did this stool come from? ...It's not very comfortable."
- "He's dead, so he can't complain."
- "It would've killed the old man if he were still alive."
- "It's not the worst thing in the world to compute a determinant... if the matrix is upper triangular."
- "People don't randomly write down an infinite set of polynomials and say, 'Hey, I wonder what splits all of these.' "
- "But since it's category theory stuff, it has no contact with reality."
- "If any of you look back at the old books and figure out what the hell Galois was doing, let me know."
- "Life is correct up to a minus sign, I guess."
- "This was just meant to freak you out."
- "Bases are always ordered. Not really. But anyway."
- "This is one of those things where you have to futz around for a bit."
- "So... colimit?" "Pfffh. Whatever that means."
- "This is not a polynomial, but it plays one on TV."
- "Who cares about finite fields?"
- "Those of you who don't know what I'm talking about can look it up on Google and learn the whole pathetic story."
- "Appreciate the difference between thinking about something and computing it. I could give you four polynomials in six variables over $\mathbf{Q}$ and say, 'have fun!' "
- "So anyways, by the Hardy-Weinberg law..."
- "I've read thousands of pages of mathematical French and I have no idea what the endings are doing."
- "I mean, we're already in la-la land."
- "This is one of those logic things."
- "It's all psychological, but that's okay."
- "Remind me later and I'll tell you the story of David Letterman and the Zariski topology."
- "1 isn't a prime. I think."
- "I seem to have gotten myself into a pickle here."
- "Letterman... I doubt he knew what the Zariski topology was. Anyways."
- "Regardless of whether it's a word or not..."
- "Professor Soundararajan finds this proof offensive: it gives no information on the asymptotic growth of these primes."
- "Let's take J to be a proper ideal so that I don't get totally confused."
- "Give me a number." "k." "Not k." "How about ℓ?" "How about 8?"
- "So we just follow our noses..."
- "I basically just told you everything I know about real algebraic geometry."
- "The Russian website should have a copy [of the book]."
- "Of course, these pictures are meaningless, because they're supposed to be over an algebraically closed field and we're stuck in $\mathbf{R}^3$."
- "ℓ is a prime number, so we can't do that. Except when it's not."
- "This is all over the well-known algebraically closed field $\mathbf{R}$."
- "I had a wrong argument with [Brumfiel] about this issue... but he's wrong."
- "Euler screwed up over this one, but they didn't know anything back then, so it's OK."
- "EGA is not part of the quals preparation."
- "Linear algebra is useful, even for problems over fields."
- "I can't remember the example off the top of my head. I'll bring it next time. It's like show and tell."
- "Anyways, it feels like a special case."
- "... by the Sally method for working with fractions."
- "I guess if I had looked at my notes, this would have been more efficient."
- "Oh, maybe I just solved that homework problem. Whatever."
- "[On the subject of wrongly forwarded emails,] I once got a top-secret message — I closed my eyes."
- "Don't ask on MathOverflow. They don't know what they're doing."
- "What the heck is this thing doing here?"
- "I've run out of letters. Oh, i! There we go."
- "Was [Cramer] French? Should there be an accent, like Cràmer?"
- "Ah yes, Jean Bodin. Only lived for 66 years. Tragic."
- "I could have looked that up on my phone. Well, not my phone. Anyways."

- "When you get something named after you with only two examples. . . "
- "That was a lame challenge."
- "So I asked, 'Why can't they just look at the credit card statement?' and was told, 'There is nobody you can contact to see the credit statement.' . . . Berkeley has better food anyways."
- "Or look at the Google or something."
- "Who brings this chair. . . ? I guess they have some kinds of parties in the evening."
- "Of course, the geometric theorem is meaningful. But that's the devil of abstract algebra."
- "I should've brought my red Hagaromo chalk. I got a special delivery of eight boxes right to my hotel on Thursday. . . it was just like a drug deal. It was amazing."
- "It's either the thing or the inverse — yeah! The thing."
- "I can't read my own handwriting."
- "Never let students turn things into the mailbox, because things happen."
- "God knows what the dimension of an empty set is; let's not worry about it."
- "Is this a sentence?"
- "You have to kind of reflect on it a bit to realize we haven't proved the Riemann hypothesis."
- "Half of one, six dozen of the other."
- "Let me draw you a picture to show why Zariski localization sucks! I mean, has problems."
- "Of course, in physics we're usually not in characteristic 2."
- "Dedekind cuts are a complete waste of time."
- "Where 7, of course, denotes an arbitrary positive integer."
- "Did Maclaurin do anything else? Who knows?"
- "The truth is, if you're doing C^∞ geometry, you should not be using commutative algebra."
- "It's coated with this magic chalk dust. . . that largely prevents making mistakes at the blackboard."
- "Again, this chair is blocking me. . . wait, we haven't had this chair before! Grad students, you're welcome to take them to your offices. Undergrads, you're welcome to take them home."
- "The phrase 'local Dedekind domain' is synonymous with 'discrete valuation ring." In fact, around Christmastime, these are often on sale at Best Buy! Practical applications of commutative algebra."
- "Somehow, my experience is that, with the exception of the future topologists, the word 'cohomology' tends to scare people. I don't know whether it's memories of a differential geometry course or what."
- "The history of math is a very interesting subject. There's these long periods of confusion."
- "You know, there's this chain of jewelry stores in the Midwest called Artinian jewelers. I want to go in and ask them how tiny are their rings."
- "Something happened on the board, and not just the joke about the jewelery store."
- "So, back at the ranch over here. . . "
- "You can just pick a basis if you want to be really wasteful."
- "So let's look at an example with. . . Laplace transforms!"
- "Don't worry; for the quals, you don't need to know quadratic reciprocity. But as a matter of culture. . . "
- "Category theory is not a real subject of math. It's a framework."
- "Now, why would that be? I'm glad you asked."
- "I even used the all-powerful tool of the Internet."
- "Boy, that smells good." "Sorry."
- "It's still a free country, I think."
- "Just a plain vanilla group G."
- "It's like a family reunion of chairs. . . the crazy aunt, the ugly uncle."
- "Society sucks. . . yeah, speaking of which, onto profinite group cohomology."
- "You could make a map between these by, you know, flailing your arms and saying something about erasable δ-functors."
- "This is actually due to Galois. Because everything is due to Galois."
- "But don't use Google, because if you use Google, you'll find my solution set."
- "If you look at the quadratic formula, which I recommend doing with safety goggles. . . "
- "You can take square roots until the cows come home."