

1 Reading

In *A T_EXas Style Introduction to Proofs*, read sections 1.3 and 1.4 and appendices *A* and *B*. From the class website, read *Getting Started with L^AT_EX* and choose an environment to start writing L^AT_EX in—either set up an account on [overleaf.com](https://www.overleaf.com) or download a piece of software you like.

2 Response

Answers to these should be written down and turned in in class.

1. Have you seen the commutative, associative, or distribution properties before? If so, where?
2. Give an example of each of the DeMorgan laws—that is, write down an English statement of the form $\neg(P \wedge Q)$ and then the corresponding statement given by the DeMorgan law, and then write down a different English statement of the form $\neg(P \vee Q)$ and then the corresponding statement given by the DeMorgan law.
3. Can you give an example of a true implication where the inverse is *not* true? How about an implication where the inverse *is* true?

3 Exercises

You should bring solutions to these to class and be prepared to present them.

1. Statement 1.19
2. Statement 1.21
3. Statement 1.23
4. Statement 1.32

4 Homework Problems

Due Thursday, January 30th

1. Statement 1.22
2. Exercise 1.30
3. Write up the solution to the domino and chessboard problem from class: given an 8×8 chessboard with the opposite corners missing, can you tile the board with dominos (each domino takes up to adjacent squares) so that each square is covered by exactly one domino and no dominos hang off the edge of the board? While this is not a formal proof, you should write it with the standards for a proof in mind: it should be complete, concise, and sufficiently clear to convince a skeptic.