Mock Lecture : Proofs of Physics

→ Test date decide   Friday?

→ Highschool v.s. Uni Physics   (Free v.s. Hard)
   - You see the same questions from class in the test.
   - In Uni, you have to depend on your ability to understand physics, not whether or not you've done the question before.

→ Two "hardest" courses in Uni for Waterloo Engineering! Proofs / Physics.

A direct proof

- Most of the time, you will have to prove a sentence true or false.
- Most sentences have a hypothesis ("if" clause) and a conclusion ("then" clause)
- E.x.   If I like all apples, then I like red apples.

  x is an integer, $x \neq -1$. If $x+1$ is even, then x is odd.

  If a block is on a table, then there is normal force on the block.

- Divisibility.   Suppose a and b are integers. If $a \mid b$, then there exists an integer k such that $ka = b$. Then converse is true.

  E.x. $2 \mid 4$, $5 \mid 0$, $3 \mid 12$, $5 \dagger 8$, $-5 \mid 10$