

## Godel's Incompleteness Theorem

The goal of the presentation is to properties of the recursively enumerable degrees. The following articles are a good starting point.

- [http://en.wikipedia.org/wiki/G%C3%B6del%27s\\_incompleteness\\_theorems](http://en.wikipedia.org/wiki/G%C3%B6del%27s_incompleteness_theorems)

Your presentation should include

- A discussion of what the theorem says.
- A discussion of the encoding formulas by numbers.
- A discussion of the formula  $Prov(x, y)$  which says that  $x$  encodes a proof of the sentence which  $y$  encodes.
- A discussion of the fixed point theorem.
- An explanation of how to prove Godel's Incompleteness theorem from the existence of the formula  $Prov$  and the fixed point theorem.

You should also feel free to expand on the above in any directions you would like (so long as they are related to the topic). If you have any questions regarding the presentation feel free to e-mail your TA or Dr. Ackerman