Let’s change things up a bit. Rather than taking a game and trying to prove it’s hard, we’re going to take a hard problem and turn it into a game. I am putting almost no limitations on the theme or kind of game you can create- only that it’s using an NP-hard problem as the base and mechanic for the strategy of the game. As a starting point, a few NP-complete problems are listed here: https://en.wikipedia.org/wiki/List_of_NP-complete_problems, but there are thousands more.

Required

1. Instructions. There should be at least 2 pages of instructions with examples, etc. What do players need to do to set up the game, how does a turn work, when is the game over, how is it scored, etc.?

2. Game pieces. There may or may not be a board, cards, dice, tokens, etc. There is no limit to what you may want to include.

3. 3 pages explaining the problem in detail, citations where it was defined and proved hard, motivations for using this problem as the base of your game, and what modifications you made in order to make the game more enjoyable or the problem more understandable.

This should all be turned in as one giant pdf (to be put on the website). It should be a print-and-play (pnp) game- so anyone can print it. I am expecting time to be spent on gameplay mechanics, theme, artwork, clarity (instructions), and the theory that went into making it. It will be graded on those categories.

I suggest starting to learn inkscape (https://inkscape.org/en/) in order to do graphics.