Homework 16

Due by class Wednesday, March 18th

1. Read the Introduction and Chapter 1 of G. Polya's book *How To Solve It*. (I'm only asking you read the first 23pp. I've included the final section "More Examples" (pp 24-33) just in case you'd like to see more examples of what is being discussed.) The material is mathematical here, but don't worry at all about whether you understand all of the math or not. The point is to try and see the process that Polya is pointing to. I recommend doing this reading before you do the second reading, because it will give you a hands on feel for what the second reading discusses from more of a bird's eye view.

2. Read the article *What Makes for Powerful Classrooms, and How Can We Support Teachers in Creating Them? A Story of Research and Practice, Productively Intertwined* by Alan Schoenfeld. (The article is 7pp plus references.) While I like this article, it doesn't include any of the empirical data that I mentioned in class today and would really like for you to get to see. So, I've also included a brief 2+ page excerpt for you to read here. This pdf file is 4 pages long, but you only need read the last two paragraphs of the first page, and up to the "Beliefs and Affects" section to get what I hope you will get.

To turn in: As you all know, I am a big proponent of the 'growth mindset' when it comes to learning. In my experience, most of what my students identify as their lack of skill with mathematics actually comes from a time when they were taught badly. I want you to root up and reexamine some of this 'mathematical trauma' from your history. ;)

Think back to your own education in mathematics. Can you find a story where a teacher forced you to memorize material over understanding it? Can you find an example where your ideas about the topic were dismissed instead of discussed? How were your contributions to the discussion framed? You might draw from an experience with peers too if that was more where your feelings on the subject were established. Based on the example that you have just given, and the Schoenfeld reading briefly propose a better way to teach the mathematical material of your example. (It's fine if you don't have a negative example from your past, instead try to use the readings to propose how you would teach a particular mathematical subject. Any subject in math is fine.)