1. (a-c) Find three different proofs of the existence of the square root of 2 online. Compare these to the proof we wrote in class. (Piazza Posting instructions - writer: post a proof you found that no one else has posted yet, and that you believe to be correct. Referee: comment on the proof. Compare it to what we learned in class. Is it valid? Does it use techniques we've developed in class so far?)

2. (a-d) Find four online resources related to the course material we have covered so far in the class - field axioms, positivity axioms, triangle inequality, supremum, completeness, etc. (websites, online discussion, videos etc.). Piazza Posting instructions - writer: post a resource you found that no one a else has posted yet. Referee: comment on the resource. Did you find it useful? What does it cover?)

3. Show the existence of cube roots for real numbers greater than 1, i.e. if $b \in \mathbb{R}$ and $b > 1$, then there exists a $c \in R$ with $c^3 = b$.

4. Using the result of the previous problem, show the existence of cube roots for all positive real numbers.

5. Using the results of the previous two problems, show the existence of cube roots for all real numbers.