
1. Compute $\int_0^1 x^3\,dx$ using the methods in Section 32.

2. In the proof of Lemma 32.2 (page 273) it was shown that $L(f, P) \leq L(f, Q)$ when $P \subset Q$. It was stated that the proof that $U(f, Q) \leq U(f, P)$ was similar. Write out the detail of this. (See also the lecture notes.)

3. [Bonus Question!]
A. Which of the following is a theorem in algebraic topology?

B. On which British game show did this question appear?

C. Anarchy in the U.K. is obviously not a British game show. It is a song by which punk rock band?
   a. The Buzzcocks. b. The Sex Pistols. c. The Dead Boys.