Problem 1: Problem 3.7

Problem 2: Problem 3.15. Notice you are not told to use the bulk approximation.

Problem 3: Problem 3.2. Note that this problem is not in the bulk approximation, so you will be able to clearly see the difference for the full solution and the bulk approximation for a sphere.

Problem 4: Topic for report.
Choose a topic for the 15 page report due at the end of the term. Find a few references that cover the topic. (This need not be a complete bibliography, but rather a demonstration that enough references exist to research the topic.)