Hints for Homework 6

1. Any partition that contains the $x$’s actually computes the integral.

2. Either use the fundamental theorem, or first prove the continuity of $f$ so that you can apply the mean value theorem. If you choose the latter route, check your hypotheses very carefully.

3. The function $x^3$ is odd. Use the Taylor approximation to order 3.

4. You might want to use the formula in the last line of Lecture 18.

5. You need to find a way of computing exactly the integral of $a + bx^2 + cx^4$ on an interval $[-h, h]$ by evaluating only at, say, $0, \pm \frac{h}{2}$, and $\pm h$. 