

Assignment 2

Hand in Ex 2.2, no. 4, Ex 2.3 no. 2c by Jan 31.

- Exercise 2.2 no. 2, 4, 6.
- Read Theorem 2.4 and Theorem 2.6.
- Exercise 2.3 no. 1, 2ac.
- Supplementary Exercise. Establish the following summation formula:

$$\sum_{k=0}^n \sin(k + 1/2)x = \frac{\sin^2 \frac{n+1}{2}x}{\sin x/2} .$$

Hint: Expand $\cos kx = \cos(k + \frac{1}{2} - \frac{1}{2})x$ and $\cos(k + 1)x = \cos(k + \frac{1}{2} + \frac{1}{2})x$.