

# Harmonic Analysis, Problem set 10

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**Due on Thursday, 2017-01-12**

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**Problem 1.** Verify the following identity from the display (3.3) in the article by Coifman, Jones, and Semmes:

$$\Delta_k f = \frac{Q_k(z'f)}{P_{k+1}(z')} - \frac{Q_k(z')P_k(z'f)}{P_k(z')P_{k+1}(z')}$$