Math 424

Homework: Due on 3/4

1) a) Prove that \( \{ \frac{\sin(\omega t - j\pi)}{\omega t - j\pi} \}_{j=-\infty}^{\infty} \) is an orthogonal system in \( L^2(\mathbb{R}) \).
   b) Prove that the series (23) in Theorem 2.23 (Shannon-Whittaker Sampling Theorem) converges also in \( L^2(\mathbb{R}) \). (See page 118 of the textbook).

2) Textbook Problems: Chapter 2: 12, 14.