Reminder: the book uses $X\left(e^{j\widehat{\omega}}\right)$ for what I've been calling $\widehat{X}(\widehat{\omega})$ in class.

1.   From the book, Problem P-7.1. Please graph $\widehat{X}_4(\widehat{\omega})$ in part (d) on the interval $-\pi \le \widehat{\omega} \le \pi$.

2. From the book, Problem P-7.2.

3.   From the book, Problem P-7.3. In part (d), try to write your answer in the form $A(\widehat{\omega})e^{-j(\alpha\widehat{\omega}+\beta)}$, where $A(\widehat{\omega})$, α, and β are real. Try to use the usual partial geometric series thing followed by clever factoring.

4. From the book, Problem P-7.6.

5. From the book, Problem P-7.8. Here you might want to use $\widehat{Y}(\widehat{\omega}) = \widehat{H}(\widehat{\omega})\widehat{X}(\widehat{\omega})$.

6. From the book, Problem P-7.15.