

Homework #1  
Due Su. 1/28

(OW = Oppenheim, Willsky, and Nawab, “Signals and Systems”).

Note: The **Basic Problems with Answers** will be worth half as much as the other questions. You must show all your work to receive credit.

1. (OW 1.21)
2. (OW 1.22 (a)-(f))
3. (OW 1.31)
4. (OW 1.49 (a)-(g), (i), (k), (l))
5. (OW 1.51)
6. (OW 1.55 (a)-(e))

You will probably want to complete the last problem before attempting this one.

7. (OW 1.56 (b)-(f))
8. Using expressions in OW 1.54 and for any  $0 < N_1, N_2 < \infty$ ,

(a) For  $a \neq 1$ , find a closed form expression for

$$\sum_{n=N_1}^{N_2} a^n$$

(b) For  $|a| < 1$ , find a closed form expression for

$$\sum_{n=N_1}^{\infty} a^n.$$