1) What is the difference between the Correlator and the Matched Filter?
2) What are the two main things that determine the spectrum of a digitally modulated signal?
3) What are the two important parts of the receiver?

From *Digital communications* (Fifth Edition) by John Proakis and Masoud Salehi,

1) Problem 3.14
2) Problem 3.15
3) Problem 3.30
4) Problem 3.31
5) Problem 4.11
6) Problem 4.13 (a,b,c,d,e)
7) Problem 4.19
8) Problem 4.39

Hints:

Problem 3.14: a) B_n can take one of three values [-2, 0,+2]
b) the PSD $=4\cos^2 (\pi fT)$

Problem 3.15: in part (c) the same results as in (b) but the magnitude of the various quantities is reduced by a factor of 4

Example has more followers than reason