Problem 1 [10 points]
(a) Peterson and Davie, Chapter 5, Exercise 8.
(b) Peterson and Davie, Chapter 5, Exercise 11.

Problem 2 [10 points]
Peterson and Davie, Chapter 5, Exercise 12.

Problem 3 [15 points]
Peterson and Davie, Chapter 5, Exercise 19, part a.

Problem 4 [20 points]
Peterson and Davie, Chapter 5, Exercise 20.

Problem 5 [15 points]
Peterson and Davie, Chapter 5, Exercise 25.

Problem 6 [10 points]
Peterson and Davie, Chapter 5, Exercise 39.

Problem 7 [20 points]
Consider the following scenario: a client on machine A is communicating to a server on machine B using a TCP connection over a 2 Mbps satellite link. The round-trip delay from A to B is 1 second.
(a) What should be the optimal window size for the TCP connection? Is it possible to advertise this window size in TCP? If not, suggest an extension to TCP to handle this. You may assume that the round-trip delay is constant.
(b) Is it always good to advertise the optimal window size? Justify your answer.