Study questions on inventory management

1.

A company buys paper in 1500 kg rolls for textbook printing. Annual demand is 1920 rolls. The cost per roll is $1000, and the annual holding cost is 30% of the cost. Each order costs $500.

a) How many rolls should the company order at a time?
b) What is the time between orders?

2.

How are the best lot size Q, and re-order point R, affected by

a) Increases in demand?
b) Decreases in setup cost?
c) Forecast errors in D, H, or S?

3.

For a retail store, it is time to order merchandise for the Christmas season. The retail store expects demand to range from 100 to 400 coats. The manager estimates the probabilities to be as follows:

Demand	Probability
100	0.10
200	0.40
300	0.40
400	0.10

The total cost to the store would be $50 per coat and the retail price would be set at $90. Any coats left after Christmas would be sold at $40 each. How many coats should the store buy if he wants to maximize expected profit?

4.

What are the primary advantages of P systems, and with Q systems?

Other excersises can be found in the old exams:

2011-06-09: Q7, Q13

2011-08-16: Q2

2012-01-12: Q3, Q9