

## Homework 3

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**Due: Friday 2:00pm, Feb 7, 2003**

1. 5.4 : Take a look at Example 5.1 on page 207
2. 5.10
3. 5.21
4. 5.32 : Take a look at the semiconductor example we studied in class on Jan 28 (on the last page of the lecture notes)
5. 5.43
6. 5.57
7. 5.85
8. The number of failures of a testing instrument from contamination particles on the product is a Poisson random variable with a mean of 0.02 failure per hour.
  - (a) What is the probability that the instrument does not fail in an 8-hour shift?
  - (b) What is the probability of at least one failure in a 24-hour day?

Hint: Be careful about the unit you use for Poisson distribution. Take a look at the copper wire example we studied in class on Jan 28 (on page 6 of the lecture notes)