1. Explain the difference between quantitative and qualitative analysis from the manager's point of view.

2. Explain the difference between mutually exclusive and independent events. Can a pair of events be both mutually exclusive and independent?

3. Explain the transformation from any normal distribution to the standard normal.

4. A video rental store has two video cameras available for customers to rent. Historically, demand for cameras has followed this distribution. The revenue per rental is $40. If a customer wants a camera and none is available, the store gives a $15 coupon for tape rental.

Demand	Relative Frequency	Revenue	Cost
0	.35	0	0
1	.30	40	0
2	.20	80	0
3	.10	80	15
4	.05	80	30

a. What is the expected demand?
b. What is the expected revenue?
c. What is the expected cost?
d. What is the expected profit?

5. The time it takes to travel from home to the office is normally distributed with $\mu = 25$ minutes and $\sigma = 5$ minutes.
a. What is the probability the trip takes more than 20 minutes?
b. What is the probability the trip takes less than 15 minutes.
c. What is the probability the trip takes between 30 and 35 minutes?
d. What is the probability the trip takes more than 40 minutes?

6. A payoff table is given as

	State of Nature		
Decision	s_1	s_2	s_3
d_1	250	750	500
d_2	300	-250	1200
d_3	500	500	600

a. What choice should be made by the optimistic decision maker?
b. What choice should be made by the conservative decision maker?
c. What decision should be made under minimax regret?
d. If the probabilities of d_1, d_2, and d_3 are .2, .5, and .3, respectively, then what choice should be made under expected value?
e. What is the EVPI?

7. For the payoff table below, the decision maker will use $P(s_1) = .15$, $P(s_2) = .5$, and $P(s_3) = .35$.

	State of Nature		
Decision	s_1	s_2	s_3
d_1	-5000	1000	10,000
d_2	-15,000	-2000	40,000

a. What alternative would be chosen according to expected value?

8. Use a four period moving average to forecast attendance at baseball games. Historical records show 5346, 7812, 6513, 5783, 5982, 6519, 6283, 5577, 6712, 7345