

ICS 6A
Homework Assignment 5
Winter 2004

Instructor: Rina Dechter

Due: Monday, February 17, 2:00PM

Answer the following questions (explain your answers).

1. Rosen, page 392, problem 1
2. Rosen, page 392, problem 6.
3. Rosen, page 392, problem 7.
4. Rosen, page 392, problem 8.
5. Rosen, page 392, problem 16.
6. Rosen, page 393, problem 23.
7. Rosen, page 393, problem 24.
8. Rosen, page 394, problem 40.
9. Suppose a discrete math class is given twice a week on Tuesday and Thursday. Let X be the random variable having the value "yes" if the attendance in the class is greater than 90 percent and "no" otherwise. Let Y be the variable indicating the day in which the class is given. Suppose that

$$P(X = \text{yes} | Y = \text{Thursday}) = .9$$

and

$$P(X = \text{yes} | Y = \text{Tuesday}) = .6$$

Suppose you are told that in today's class there were more than 90 percent of the students. What is the probability that it is Tuesday? Namely, what is

$$P(Y = \text{Tuesday} | X = \text{yes})?$$