

**Math 1313**  
**Homework 21**  
**Section 6.5**

**Use the following problems to answer questions 1 – 4.**

Of 2,000 students surveyed, 80% indicated that they commute to school each day. Of those that commute to school each day, 83% spend more than \$25 a week on gasoline. Of those that do not commute to school each day, 95% indicated that they do not spend more than \$25 a week on gasoline. A student surveyed is chosen at random.

1. What is the probability that this student does not commute to school each day?
  - a. 0.2000
  - b. 0.0980
  - c. 0.9700
  - d. 0.1000
  - e. 0.5642
  
2. What is the probability that this student does not commute to school each day and does not spend more than \$25 a week on gas?
  - a. 0.0980
  - b. 0.1403
  - c. 0.0020
  - d. 0.0582
  - e. 0.1900
  
3. What is the probability that this student does spend more than \$25 a week on gas?
  - a. 0.7490
  - b. 0.8366
  - c. 0.6740
  - d. 0.0018
  - e. 0.2237
  
4. What is the probability that this student does spend more than \$25 a week on gas, given that he/she does commute to school each day?
  - a. 0.9700
  - b. 0.8300
  - c. 0.7470
  - d. 0.1034
  - e. 0.1896

**Use the following problems to answer question 5.**

There are 300 seniors in Jefferson High School, of which 140 are males. It is known that 80% of the males and 60% of the females have their driver's license. If a student is selected at random from this senior class, what is the probability that the student is:

5. A male and has a driver's license?
  - a. 0.0933
  - b. 0.3733
  - c. 0.4667
  - d. 0.1000
  - e. 0.8412

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6. The choices for problem number 12 from the book are given below.
- a. 0.5000
  - b. 0.3333
  - c. 0.5946
  - d. 0.2200
  - e. 0.7114
7. The choices for problem number 36 part d from the book are given below.
- a. 0.6667
  - b. 0.2487
  - c. 0.5628
  - d. 0.4421
  - e. 0.3957
8. The choices for problem number 36 part f from the book are given below.
- a. 0.2843
  - b. 0.7333
  - c. 0.5465
  - d. 0.4835
  - e. 0.3861
9. The choices for problem number 40 part d from the book are given below.
- a. 0.5006
  - b. 0.0818
  - c. 0.6871
  - d. 0.4040
  - e. 0.1634
10. The choices for problem number 40 part e from the book are given below.
- a. 0.5806
  - b. 0.1270
  - c. 0.8183
  - d. 0.6580
  - e. 0.4138