Name: Date: Hour:

Geometry
12.3 – 12.4 Compound Events WS

1. A study of consumer loans found that 37 were defaults while 1383 had all obligations satisfied. For a consumer loan randomly selected from those studied, find the probability of a default.

2. What is P(A) if event A is certain to occur? What is P(B) if event B is impossible?

3. Data provided by the Bureau of Justice Statistics revealed that for a representative sample of convicted burglars, 76,000 were jailed, 25,000 were put on probation, and 2,000 received other sentences. Estimate the probability that a convicted burglar will serve jail time.

4. The following table shows recent driver convictions for select violations in two counties. If one of the convictions is randomly selected, find the probability that it is for DWI (driving while intoxicated).

	Speeding	**DWI**	**Total**
Dutchess County	10,589	636	
Westchester County	22,551	963	
Total			

5. A card is drawn at random from a standard deck of playing cards. Find the probability that it is:
   a. a nine b. a nine or a queen c. a nine or a diamond

6. A local survey asked 100 subjects for their opinions on a zoning ordinance. Of the 62 favorable responses, there were 40 males. Of the unfavorable responses, there were 15 males. If one of these subjects is randomly selected, find the probability of getting a female or a favorable response.

7. Consider the data shown below regarding drug experiments at Merrell Dow Pharmaceuticals:

	Seldane	Placebo	Control	Total
Drowsiness	70	54	113	
Non-drowsiness	711	611	513	
Total				

   a. If one of these subjects is randomly selected, find the probability of getting someone who took Seldane or a placebo.

   b. If one of these subjects is randomly selected, find the probability of getting someone who took Seldane or experienced drowsiness.

   c. Of those whose were in the control group, find the probability of randomly selecting someone who did not experience drowsiness.

8. Among 200 seats available on an international airliner, 40 are reserved for smokers (including 16 aisle seats) and 160 are reserved for non-smokers (including 64 aisle seats). If one passenger is randomly selected, find the probability of getting an aisle seat or a seat in the smoking section.

9. A survey of 400 randomly selected heads of household found 301 people who own cars (116 of whom are women) and 99 other people who don't own cars (59 of whom are women). If one of these subjects is randomly selected, find the probability of:
   a. selecting a woman

   b. selecting a woman or someone who owns a car

   c. selecting a man or someone who doesn't own a car

10. A company is focus testing a new type of fruit drink. The focus group is 47% male. Of the responses, 40% of the males and 54% of the females said they would buy the drink. What is the probability that a randomly selected person would buy the fruit drink?