Statistics & Probability Probability Test Review

Name_____ Date_____ Period_____ Score_____

1. You roll a fair six-sided die.

   a) List the sample space:_____

   b) Find the probability you roll a 5._____

   c) Find the probability you roll an odd number._____

   d) Find the probability you roll a 5 OR an odd number._____

2. A group of 125 pick-up truck owners were asked what brand truck they owned and whether it had four-wheel drive. The results are given in the two-way table below.

		Four wheel drive?		
		Yes	No	Total
Truck Brand	Ford	28	17	45
	Chevy	32	18	50
	Dodge	20	10	30
	Total	80	45	125

Using the table above, find P(Ford | Own 4-Wheel Drive). _____

3. There are 10 red marbles and 8 green marbles in a jar.

   a) If you take three marbles from the jar without replacement, are these events mutually exclusive? _____

   Explain why or why not:_____

   _____

   b) What is the probability that they are all red? _____

4. If $P(A) = 0.6$, $P(B) = 0.2$, and $P(A \cap B) = 0.10$,

   Find $P(A \cup B) =$ _____

5. Mrs. Young asked 100 high school students if they had a dog, a cat, or both at home. Here are the results.

		Dog?		
		No	Yes	Total
Cat?	No	74	4	78
	Yes	10	12	22
	Total	84	16	100

a) Create a Venn Diagram of the information provided in the table above.

Let C = has a cat Let D = has a dog

Find the following:

b) $P(C) =$ _____

c) $P(D) =$ _____

d) $P(C \cup D) =$ _____

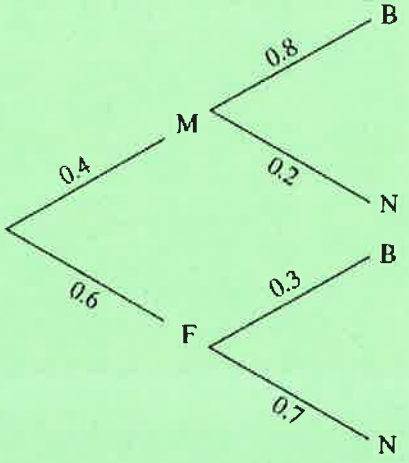
e) $P(C \cap D) =$ _____

e) Shade the Venn Diagram showing $P(D^c)$

6. Coach Kemp chooses a student at random from the Coppell High School student body, and the following events are recorded:

M = the student is male,
F = the student is female,
B = the student ate breakfast that morning, and
N = the student did not eat breakfast that morning.

The following tree diagram gives probabilities associated with these events.

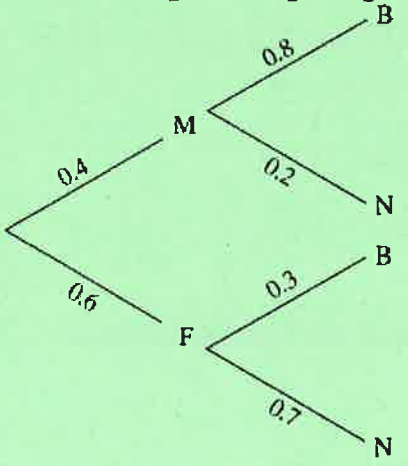


What is the probability that the student had breakfast?_____

6. Mrs. Lerch chooses a student at random from the Sage Hill student body, and the following events are recorded:

M = the student is male,
F = the student is female,
B = the student ate breakfast that morning, and
N = the student did not eat breakfast that morning.

The following tree diagram gives probabilities associated with these events.



Given that a student who ate breakfast is selected,

what is the probability that he is male? _____

7. **Suppose your school is in the midst of a flu epidemic.**

a) **Use the following probabilities to create a tree diagram:**

Has the flu:	**0.35**
Has the flu and high fever:	**0.90**
Has a high fever, not the flu	**0.12**

b) **Use your tree diagram to find P(Flu | Fever).** _____

8. **You draw a card from a standard deck of 52 cards.**

a) **Determine if drawing a RED card and an ACE are independent. (Show your work.)**

b) **Determine if drawing a RED card and an ACE are mutually exclusive. (Show your work.)**