

14.4 Conditional Probability Assignment– Grandma’s Birthday



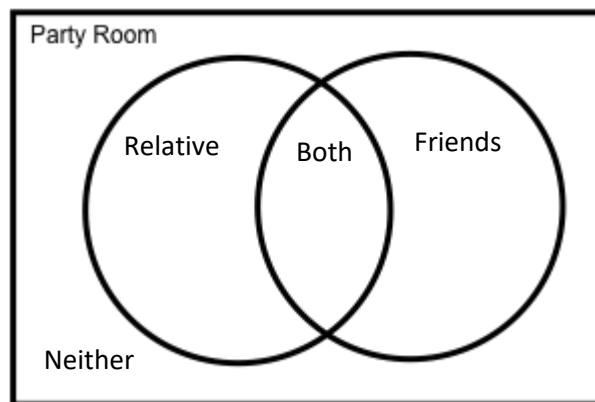
Name: _____

Hr: _____

You’ve been invited to Grandma Adam’s birthday party at the haunted mansion! All your crazy relatives and friends will be there. When you arrive, this is what you discover:

- 200 people are at the party
- 24 are relatives
- 43 are neither a friend or a relative
- 20 are both a friend and a relative

1. How many of your friends came to the party? Use the information above to complete the Venn diagram. *Note: a friend is anyone you’ve met. You are that kind of guy or gal.*



2. Once you’ve completed the Venn diagram, create a two-way table that displays the same data.

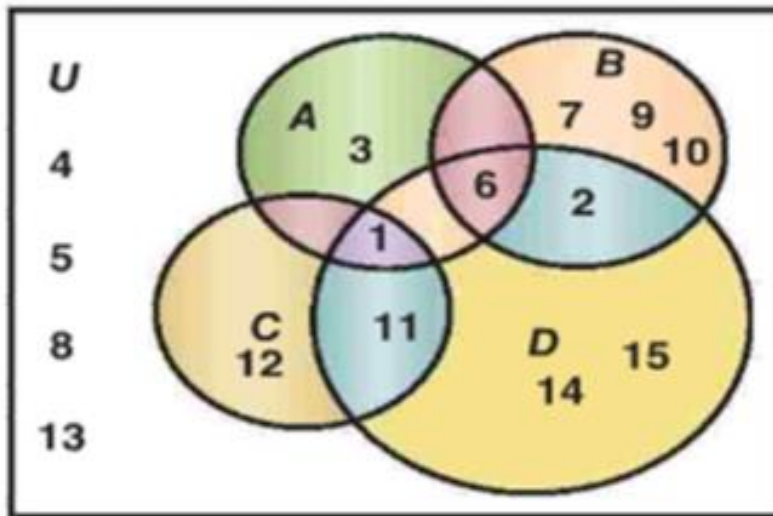
	Friend	Not Friend	Total
Relative			
Not Relative			
Total			

Ready:

Use the information from your table on number 2 to answer the following questions. Use F to represent "Friend" and R to represent "Relative."

- 3. Find $P(F)$
- 4. Find $P(R)$
- 5. Find $P(R')$
- 6. Find $P(F')$
- 7. Find $P(R|F)$
- 8. Find $P(F|R)$
- 9. Find $P(F|R')$
- 10. Find $P(R|F')$
- 11. Find $P(R'|F')$
- 12. Find $P(F \cup R)$
- 13. Find $P(F \cap R)$

Use the Venn diagram to find each of the following.
(Examples 2 and 3)



- 14. $A \cup B$
- 15. $C \cup D$
- 16. $A \cap B \cap D$
- 17. $A \cap D$
- 18. A'
- 19. $(A \cup B) \cup C$
- 20. Find $P(C \cup D)$
- 21. $P(B|A)$
- 22. Find $P(A \cap B)$