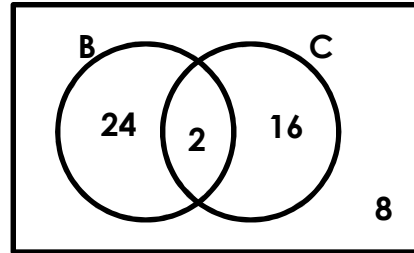


Name: \_\_\_\_\_ Date: \_\_\_\_\_

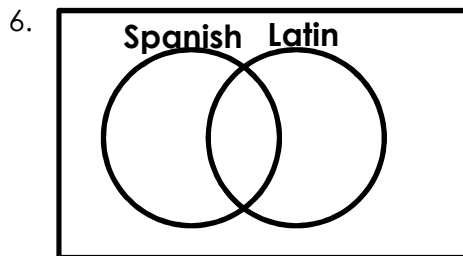
## Using Venn Diagrams

If the Venn diagram below shows the number of people in a fine arts club who are in band (B) and choir (C), make the following determinates:

- \_\_\_\_\_ 1. How many people are in the club?
- \_\_\_\_\_ 2. Find  $P(B)$
- \_\_\_\_\_ 3. Find  $P(B \cap C)$
- \_\_\_\_\_ 4. Find  $P(B \cup C)$
- \_\_\_\_\_ 5. Find  $P(B)'$



A guidance counselor is planning schedules for 30 students. 16 want to take Spanish and 11 want to take Latin. 5 say they want to take both. Display this information on the Venn diagram below.

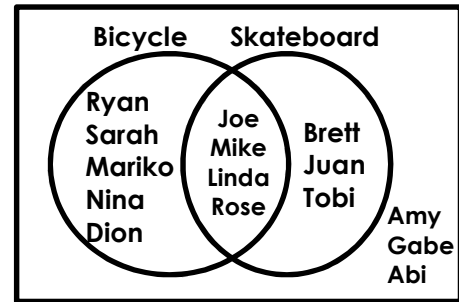


- \_\_\_\_\_ 7. Find  $P(S \cap L)$
- \_\_\_\_\_ 8. Find  $P(L)$
- \_\_\_\_\_ 9. What is the probability that a student studies at least one subject?  $P(S \cup L)$
- \_\_\_\_\_ 10. What is the probability that a student studies exactly one subject?
- \_\_\_\_\_ 11. What is the probability that a student studies neither subject?  $P(S \cup L)'$
- \_\_\_\_\_ 12. What is the probability that a student studied Spanish if it is known that the student studies Latin? *Hint: your denominator only represents those who study Latin. Only look in that circle to search for your numerator.*

Mr. Leary’s Class: Use the Venn diagram showing the number of kids owning bicycles (A) and skateboards (B) to find the following probabilities.

\_\_\_\_\_ 13. Find  $P(A \cap B)$

Fill in the blank for the **description** of what this means: It’s the probability of owning \_\_\_\_\_ things.



\_\_\_\_\_ 14. Find  $P(A \cup B)$

Fill in the blank for the **description** of what this means: It’s the probability of owning \_\_\_\_\_ one of the things.

\_\_\_\_\_ 15. Find  $P(A \cup B)'$

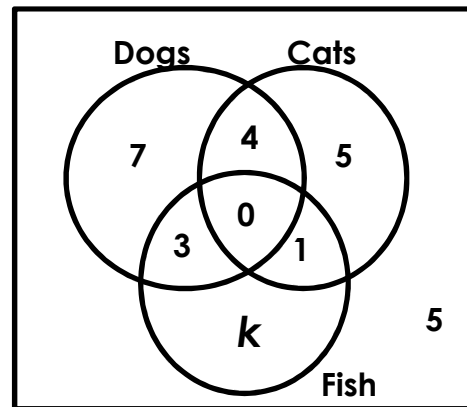
Fill in the blank for the **description** of what this means: It’s the probability of owning \_\_\_\_\_ thing.

The Venn diagram below shows the results of a survey done by a veterinarian about the types of pets owned by 26 clients. The survey was only related to dogs (D), cats (C), and fish (F).

\_\_\_\_\_ 16. What is the value of  $k$ ?

17. How did you determine the value?

If a randomly selected member is asked their preference, what is the probability that the member has:



\_\_\_\_\_ 18. Only dogs?

\_\_\_\_\_ 19. Dogs and cats?  $P(D \cap C)$

\_\_\_\_\_ 20. None of these animals?  $P(D \cup C \cup F)'$

\_\_\_\_\_ 21. At least one of these pets?  $P(D \cup C \cup F)$

\_\_\_\_\_ 22. All of the pets?  $P(D \cap C \cap F)$

\_\_\_\_\_ 23. Fish and dogs, but not cats?

\_\_\_\_\_ 24. Fish or dogs?  $P(F \cup D)$