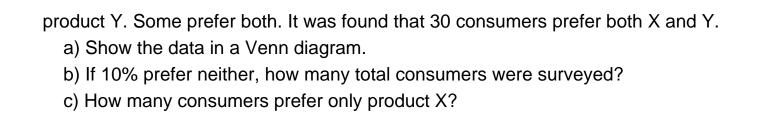
Here are 20 model questions similar to the provided example, formatted as requested:

- 1. In a class of students, 60% like mathematics and 40% like science. 10% like neither. 12 students like both mathematics and science.
  - a) Represent the data in a Venn diagram.
  - b) How many students are there in the class?
  - c) How many students like only mathematics?
- 2. A survey of 100 people revealed that 45 read newspaper A, 52 read newspaper B, and 15 read both newspapers.
  - a) Draw a Venn diagram to illustrate the information.
  - b) How many people read neither newspaper?
  - c) How many people read only newspaper A?
- 3. In a group of 80 students, 30 play cricket, 40 play football, and 10 play both.
  - a) Show this information using a Venn diagram.
  - b) Find the number of students who play neither cricket nor football.
  - c) Find the number of students who play only football.
- 4. Out of 200 employees, 140 drink tea and 120 drink coffee. 20 drink neither tea nor coffee.
  - a) Represent this using a Venn diagram.
  - b) How many employees drink both tea and coffee?
  - c) How many employees drink only tea?
- 5. Let U be a universal set with n(U) = 150. Let A and B be subsets of U such that n(A) = 80, n(B) = 60, and n(A'') = 20.
  - a) Draw a Venn diagram representing this information.
    - b) Find n(A "\* B).
    - c) Find n(Aœ).
- 6. If P(A) = 0.6, P(B) = 0.5, and P(A \* B) = 0.8, then:
  - a) Find P(A") B). Illustrate with Venn diagram.
  - b) Find P(Ace ") Bce).
  - c) Find P(A | B) (Probability of A given B).
- 7. A survey showed that 70% of consumers prefer product X, and 60% prefer



- 8. Let  $A = \{x: x \text{ is a prime number less than 10} \}$  and B 9.
  - a) List the elements of sets A and B. Represent with Venn diagram.
    - b) Find A "\* B.
    - c) Find A ") B.
- 9. In a survey of 500 people, 285 watched movie A and 195 watched movie B. 50 watched neither.
  - a) Display the data using a Venn diagram.
  - b) How many people watched both movies?
  - c) How many people watched only movie A?
- 10. Given: n(U) = 250, n(A) = 100, n(B) = 70, n(A "\* B)
  - a) Represent the information on a Venn diagram.
    - b) Find n(A") B).
    - c) Find n(Bœ).
- 11. A group of students were asked about their favorite subjects. 45% like math, 55% like English, and 20% like both. 10 students liked neither.
  - a) Show this information in a Venn diagram.
  - b) How many students were in the group?
  - c) How many students liked only English?
- 12. Out of 150 people surveyed, 80 own a car, 60 own a motorcycle, and 30 own both.
  - a) Represent this information using a Venn diagram.
  - b) How many people own neither a car nor a motorcycle?
  - c) How many people own only a car?
- 13. Let A and B be two sets such that n(A) = 15, n(B) = 15
  - a) Draw a Venn diagram representing A and B.
    - b) Find n(A ") B).
  - c) Find n(A B) [elements in A but not in B].

- 14. 80 students took an exam. 50 passed math, 40 passed physics, and 10 failed both.
  - a) Show this information in a Venn diagram.
  - b) How many students passed both subjects?
  - c) How many students passed only math?
- 15. If P(A) = 1/3, P(B) = 1/4, and P(A'') B = 1/5.
  - a) Draw a Venn diagram showing P(A), P(B) and P(A
  - b) Find P(A "\* B).
  - c) Find P(Ace).
- 16. In a school, 65% of the students play football, 50% play basketball, and 20% play neither. If there are 300 students in the school:
  - a) Represent the data in a Venn diagram.
  - b) How many students play both football and basketball?
  - c) How many students play only football?
- 17. A survey about favorite fruits showed that 60 people liked apples, 50 liked bananas, and 20 liked both.
  - a) Represent this in a Venn diagram.
- b) If every person liked at least one of the fruits, how many people were surveyed?
  - c) How many liked only bananas?
- 18. Given the universal set  $U = \{1, 2, 3, 4, 5, 6, 7, 8, 9, 10\}$ ,  $A = \{2, 4, 6, 8, 10\}$ , and  $B = \{1, 3, 5, 7, 9\}$ .
  - a) Show this in a Venn diagram.
    - b) Find A ") B.
    - c) Find Aœ "\* Bœ.
- 19. In a class of 60 students, 25 like tea, 30 like coffee and 8 like both tea and coffee.
  - a) Illustrate with Venn diagram
  - b) How many students like neither tea nor coffee?
  - c) How many students like only coffee?
- 20. Out of 300 students who took an examination, 60% passed in mathematics,

50% passed in physics and 30% failed in both subjects.

- a) Represent the information in a Venn diagram.
- b) How many students passed in both subjects?
- c) How many students passed in mathematics only?