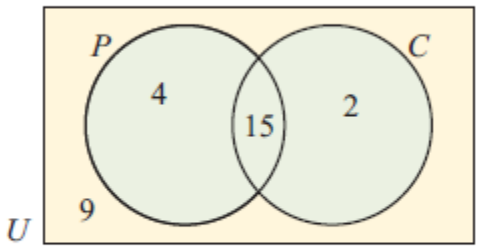
Two Bubble Venn Diagram Answers

1 **a** 18 **b** 2 **c** 17 **d** 12

2 **a** 75 **b** 9 **c** 24 **d** 42

3



a 15 **b** 21

c 4 **d** 6

e 9

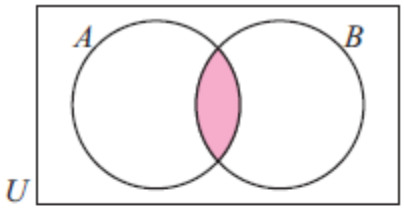
4 **a** 19 **b** 20 **c** 32 **d** 25 **e** 13

5 10 play both **6** **a** 18 **b** 38 **7** **a** 22 **b** 18

8 **a** 15 **b** 14 **c** 8 **9** 200 families had both

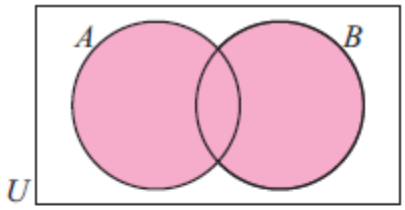
Challenging

1



$A \cap B = B \cap A$

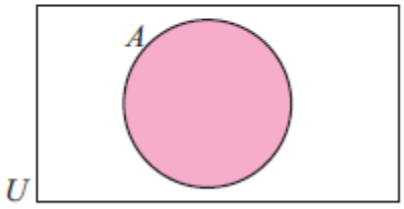
The common area is the same.



$A \cup B = B \cup A$

The combined area is the same.

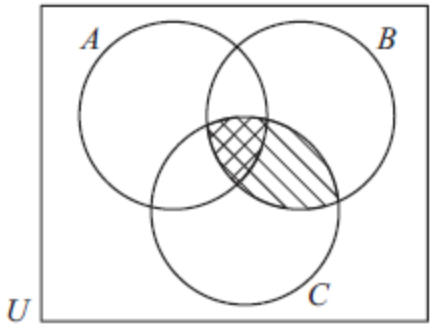
2



$A \cap A = A$
$A \cup A = A$

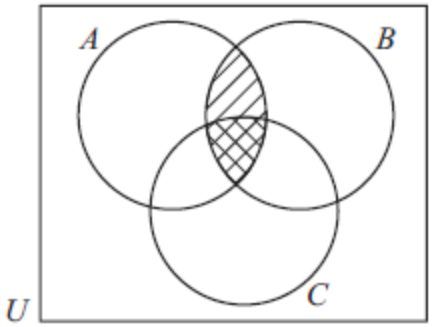
The intersection is the area common to both $= A$
The union is the total area in both $= A$

3



represents $B \cap C$

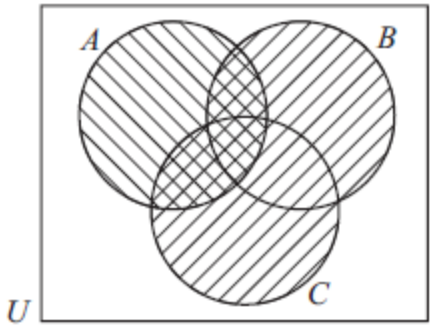
represents $A \cap (B \cap C)$



represents $A \cap B$

represents $(A \cap B) \cap C$

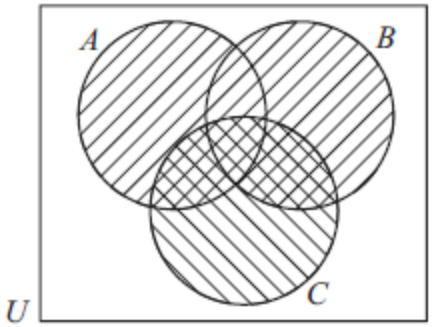
Area shaded is the same in each case.



represents A

represents $B \cup C$

whole shaded region represents $A \cup (B \cup C)$



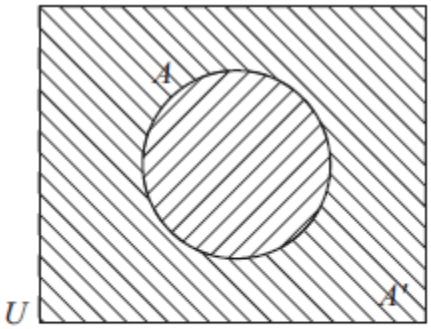
represents C

represents $A \cup B$

whole shaded region represents $(A \cup B) \cup C$

Total shaded area is the same in each case.

4



represents A

represents A'

A and A' are the complement of each other. When combined, they make up the universal set U,

i.e., $(A')' = A$.

5 **a** $A \cap A' = \{\ \}$, the empty set

b $A \cup A' = U$, the universal set