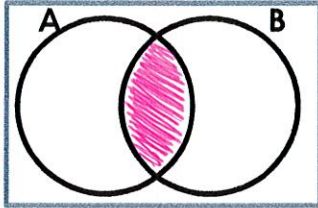


Name \_\_\_\_\_ Date \_\_\_\_\_

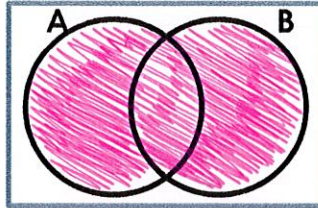
## Day 2 – Set Notation and Venn Diagrams

Shade in the appropriate area of the Venn Diagram.

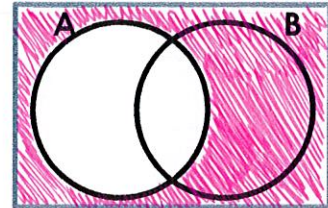
1.  $A \cap B$



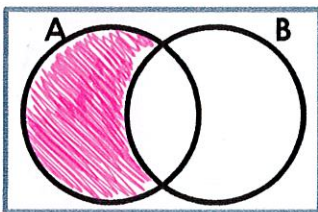
2.  $A \cup B$



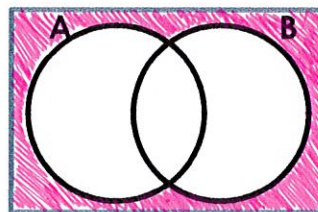
3.  $A'$



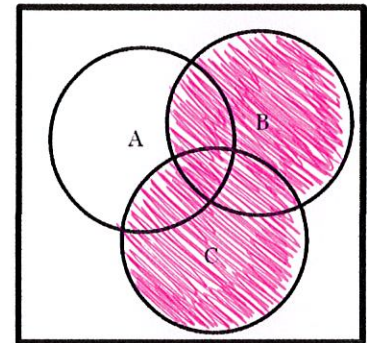
4.  $A \cap B'$



5.  $(A \cup B)'$



6.  $B \cup C$



Mr. Grisham took a poll of his student's favorite type of weather. The students had the choice of hot, cold, and/or rain/snow. The results are displayed in the Venn Diagram. Write your answer as a reduced fraction.

5/9 6. Find  $P(\text{Cold})$ .  $15/27 = 5/9$

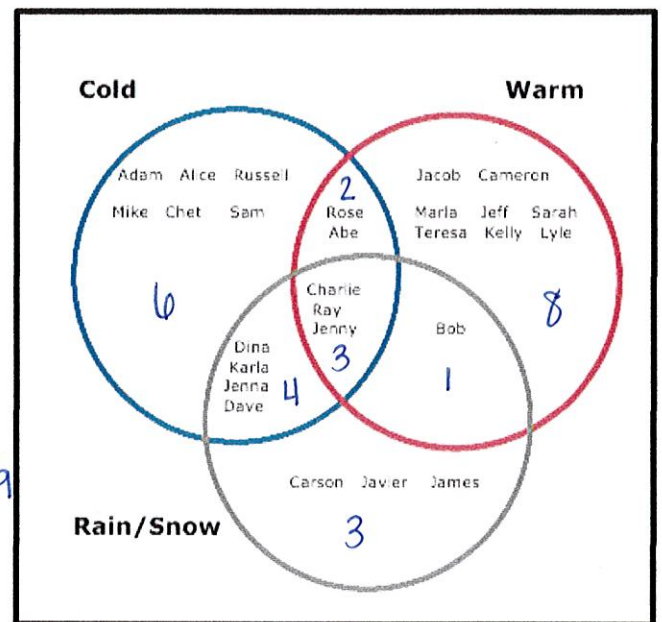
13/27 7. Find  $P(\text{Warm})'$ .

5/27 8. Find  $P(\text{Cold} \cap \text{Warm})$ .

4/27 9. Find  $P(\text{Warm} \cap \text{Rain})$ .

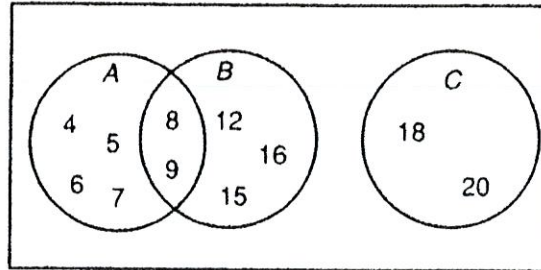
1/9 10. Find  $P(\text{Warm} \cap \text{Cold} \cap \text{Rain})$ .  $3/27 = 1/9$

8/9 11. Find  $P(\text{Cold} \cup \text{Warm})$ .  $24/27 = 8/9$



## EXTRA PRACTICE 1-3

# UNION AND INTERSECTION OF SETS



## EXERCISES

Refer to the diagram. Find the set named by listing the members.

1.  $A \cup B$   $\{4, 5, 6, 7, 8, 9, 12, 15, 16\}$
2.  $A \cap B$   $\{8, 9\}$
3.  $A \cup C$   $\{4, 5, 6, 7, 8, 9, 18, 20\}$
4.  $A \cap C$   $\emptyset$
5.  $B \cup C$   $\{8, 9, 12, 15, 16, 18, 20\}$
6.  $B \cap C$   $\emptyset$
7.  $(A \cup B) \cup C$   $\{4, 5, 6, 7, 8, 9, 12, 15, 16, 18, 20\}$
8.  $(A \cap B) \cup C$   $\{8, 9, 12, 15, 16\}$

Let  $U = \{0, 2, 4, 6, 8, 10, 12\}$ ,  $X = \{2, 4, 6, 8, 10\}$ ,  $Y = \{4, 6, 8\}$ , and  $Z = \{2, 10\}$ . Find each union or intersection.

9.  $X'$   $\{0, 12\}$
10.  $Y'$   $\{0, 2, 10, 12\}$
11.  $Z'$   $\{0, 4, 6, 8, 12\}$
12.  $X \cup Y$   $\{2, 4, 6, 8, 10\}$
13.  $Y \cap Z$   $\emptyset$
14.  $(X \cup Y)'$   $\{0, 12\}$
15.  $X' \cup Y'$   $\{0, 2, 10, 12\}$
16.  $(X \cap Y)'$   $\{0, 2, 10, 12\}$
17.  $Y' \cap Z'$   $\{0, 12\}$
18.  $(X \cup Z)'$   $\{0, 12\}$
19.  $(X \cup Y) \cap Z$   $\{2, 10\}$
20.  $(X \cup Z) \cap Y$   $\{4, 6, 8\}$