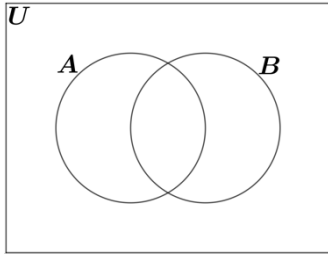# Venn Diagram Worksheet
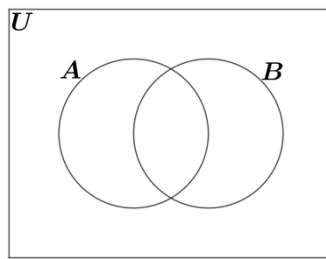
Shade the following sets using the Venn diagram.
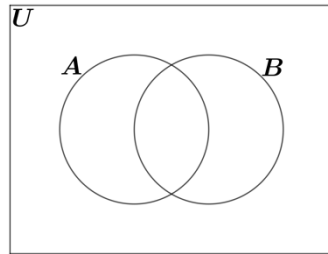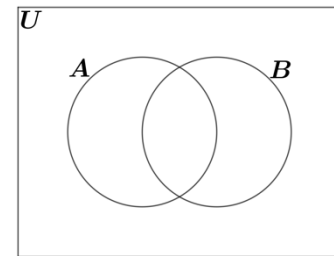
1. $A \cap B$
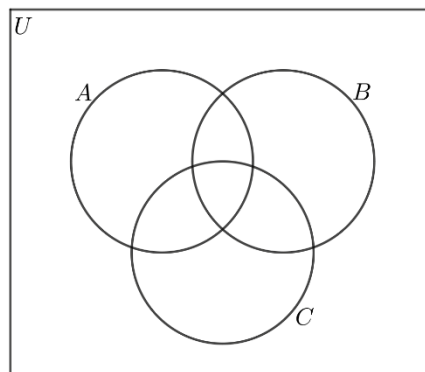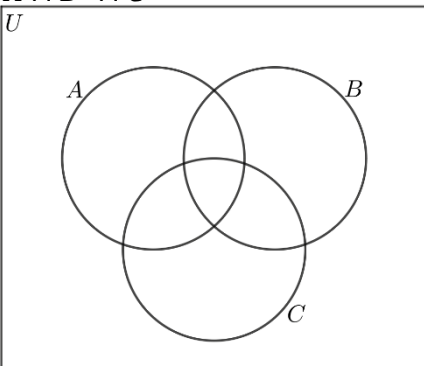
2. $B - A$

3. $A' \cup B$

4. $(A \cup B) - (A \cap B)$
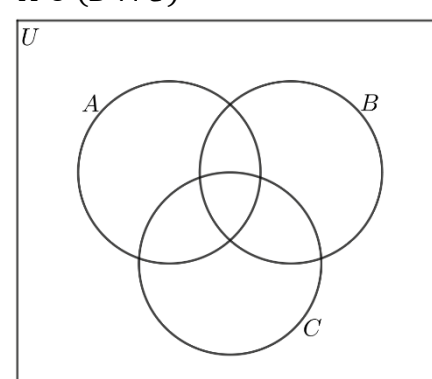
5. $A \cap B \cap C$
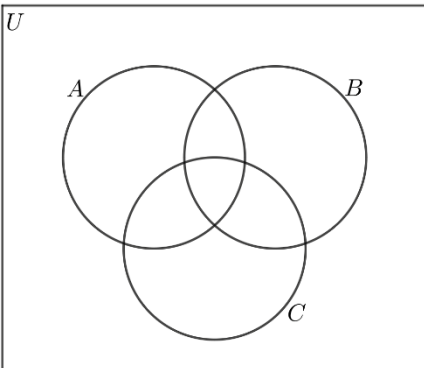
6. $A \cup B \cup C$
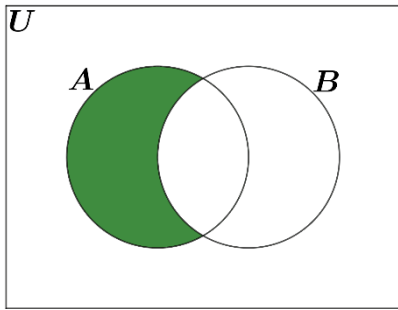
7. $A \cap B' \cap C'$
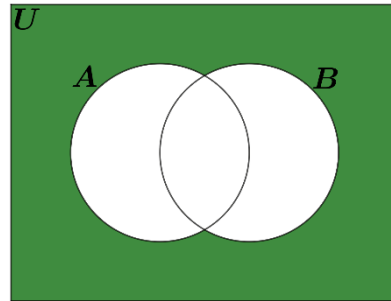
8. $A \cup (B \cap C)'$

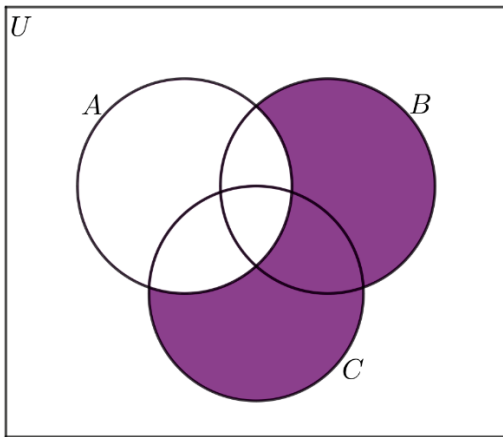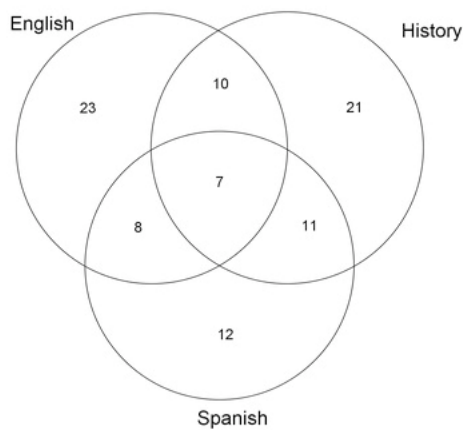Describe the shaded region using set theory notation.

**9.**

10.

11.

12. One hundred students were asked whether they currently enrolled in English, History and Spanish. Use the Venn Diagram to answer the questions.
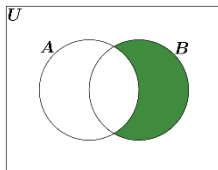

a) How many students are not enrooled in any of these three disciplines?
b) How many are enrolled in English and History?
c) How many are enrolled in English or History?
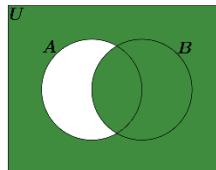d) How many are enrolled in Spanish?
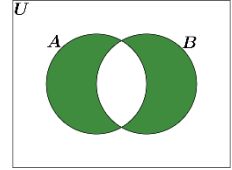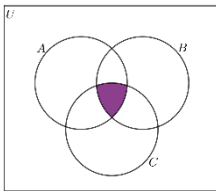
Answer Key

1. $A \cap B$

2. $B - A$

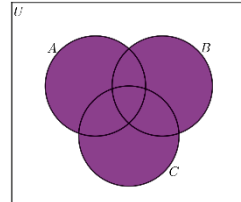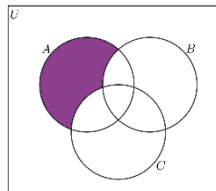

3. $A' \cup B$
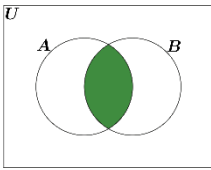
4. $(A \cup B) - (A \cap B)$

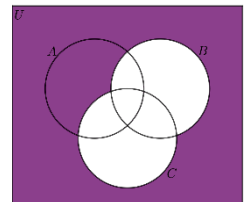**5.** $A \cap B \cap C$
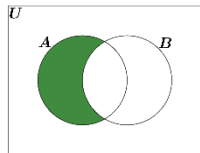

6. $A \cup B \cup C$

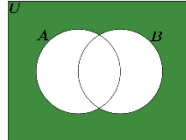**7.** $A \cap B' \cap C'$

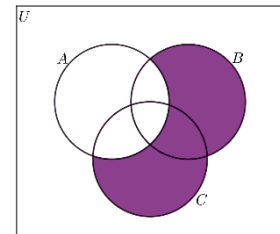**8.** $A \cup (B \cap C)'$

9. $A \cap B'$

10. $(A \cup B)'$

11. $B \cup C - A$ or $B \cup C \cap A'$

12a.   **Eight** are not enrolled in any of these three disciplines.

12b.   **Seventeen** are enrolled in English and History.

12c.   **Eighty** are enrolled in English or History.

12d.   **Thirty-eight** are enrolled in Spanish.