

$$U = \{1, 2, 3, 4, 5, 6, 7, 8, 9, 10\}$$

$$A = \{3, 4, 5, 6, 7\} \quad C = \{1, 2, 3, 4\}$$

$$B = \{2, 4, 6, 8, 10\}$$

$$A' = \underline{\hspace{2cm}} \quad (A' \cap C') = \underline{\hspace{2cm}}$$

$$B \cap C = \underline{\hspace{2cm}} \quad \{x / x \in A \vee x \in B\} =$$

$$A \cup C = \underline{\hspace{2cm}} \quad \underline{\hspace{2cm}}$$

$$B - A = \underline{\hspace{2cm}} \quad \text{How many subsets}$$

$$A' \cup (B \cap C) = \underline{\hspace{2cm}} \quad \text{does } C \text{ have?}$$

$$(B \cap C) \cup (B \cap C') = \underline{\hspace{2cm}} \quad \underline{\hspace{2cm}}$$

$$U = \{1, 2, 3, 4, 5, 6, 7, 8, 9, 10\}$$

$$A = \{3, 4, 5, 6, 7\} \quad C = \{1, 2, 3, 4\}$$

$$B = \{2, 4, 6, 8, 10\}$$

$$A' = \{1, 2, 8, 9, 10\} \quad (A' \cap C') = \{1, 2, 3, 4, 5, 6, 7\}$$

$$B \cap C = \{2, 4\}$$

$$A \cup C = \{1, 2, 3, 4, 5, 6, 7\} \quad \{x / x \in A \vee x \in B\} = \{2, 3, 4, 5, 6, 7, 8, 10\}$$

$$B - A = \{2, 8, 10\}$$

How many subsets

$$A' \cup (B \cap C) = \{1, 2, 4, 8, 9, 10\} \text{ does } C \text{ have?}$$

$$(B \cap C) \cup (B \cap C') = \{2, 4, 6, 8, 10\} = B \quad 2^4 = 16$$

$$P \cap R = \underline{\hspace{2cm}}$$

$$Q' = \underline{\hspace{2cm}}$$

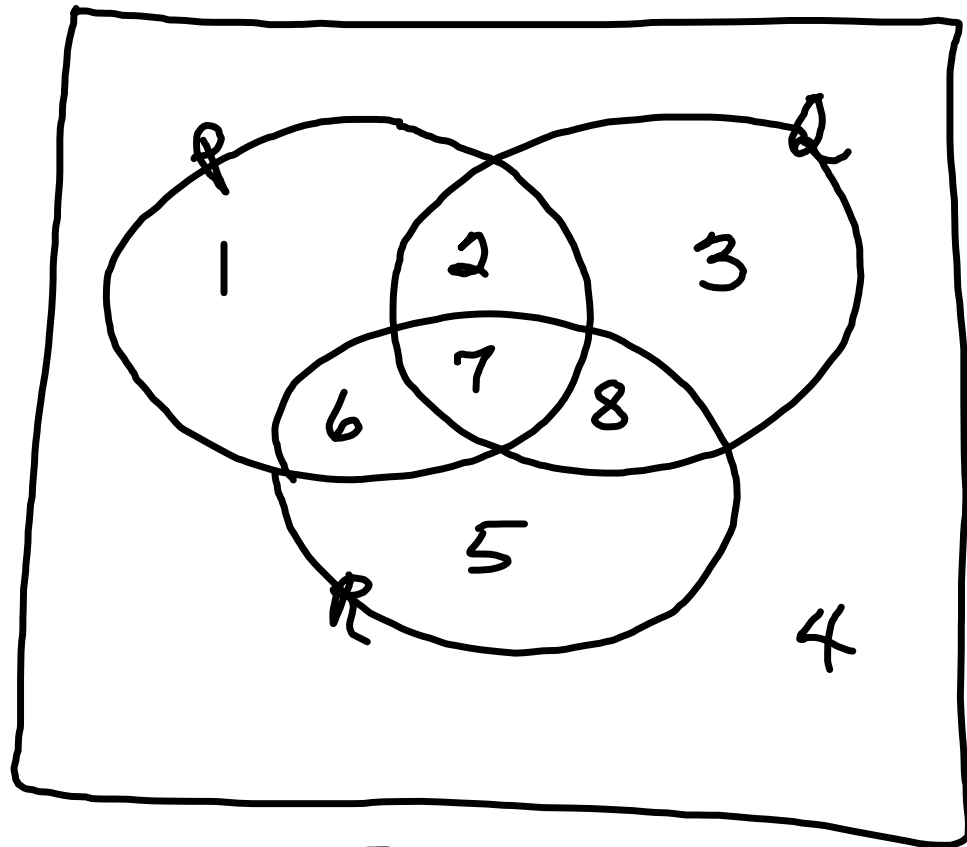
$$Q \cup P = \underline{\hspace{2cm}}$$

$$P - Q = \underline{\hspace{2cm}}$$

$$P' \cap (Q \cup R) = \underline{\hspace{2cm}}$$

$$(Q \cup P') \cap (Q \cup P) = \underline{\hspace{2cm}}$$

$$(P \cap Q) \cap R' = \underline{\hspace{2cm}}$$



$$Q' = \underline{\hspace{2cm}}$$

$$R - (P \cap Q) = \underline{\hspace{2cm}}$$

$$P \cap R = \underline{6, 7}$$

$$Q' = \underline{1, 4, 5, 6}$$

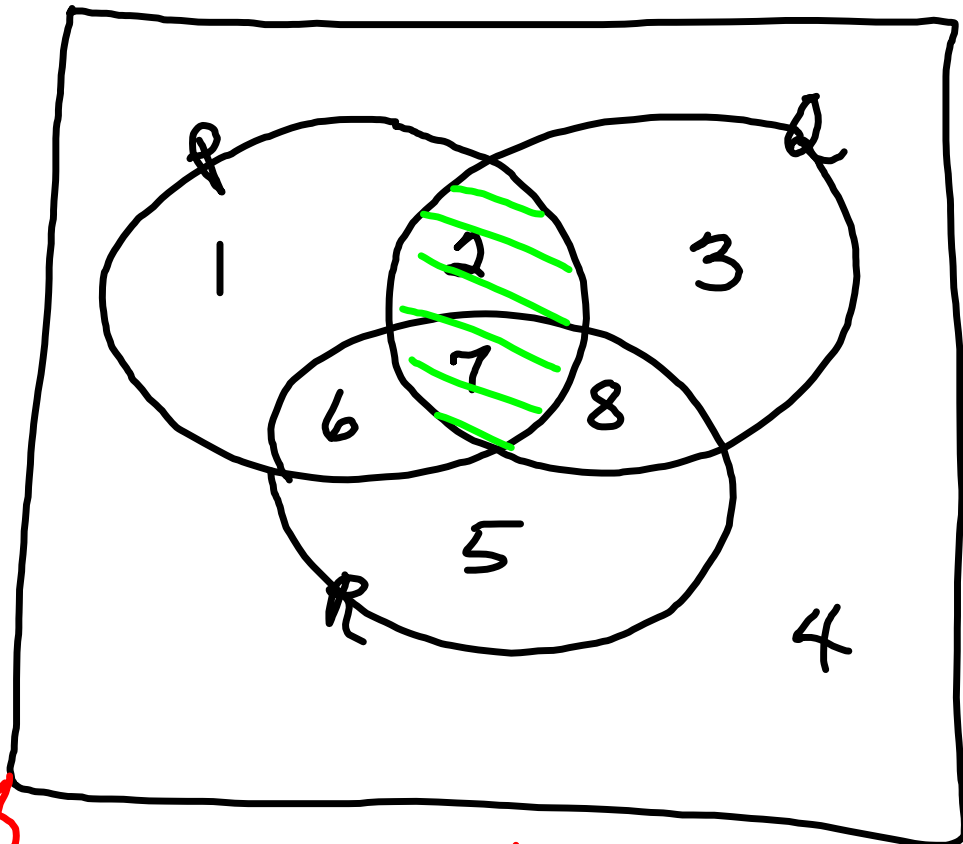
$$Q \cup P = \underline{1, 2, 3, 4, 7, 8}$$

$$P - Q = \underline{1, 6}$$

$$P' \cap (Q \cup R) = \underline{3, 5, 8}$$

$$(Q \cup P') \cap (Q \cup P) = \underline{2, 3, 7, 8}$$

$$(P \cap Q) \cap R' = \underline{2}$$



$$U = \underline{1, 2, 3, 4, 5, 6, 7, 8}$$

$$R - (P \cap Q) = \underline{5, 6, 8}$$

Complete with: $\mathcal{U}, \phi, A, A', B, B', C, C'$

$$A \cap (B \cup B') = \underline{\hspace{2cm}}$$

$$C \cup (B \cup B') = \underline{\hspace{2cm}}$$

$$A' \cap (A \cap B) = \underline{\hspace{2cm}}$$

$$(B \cup C) \cap (B' \cup C) = \underline{\hspace{2cm}}$$

$$(A \cap B') \cup (A' \cup B) = \underline{\hspace{2cm}}$$

$$[A \cap (B \cup A')] \cup [A - B] = \underline{\hspace{2cm}}$$

$$[(A \cup C) \cap (B' \cup C)] \cap [A' \cup (B \cup C)] = \underline{\hspace{2cm}}$$

$$[A' - (B \cup C)] \cap [A' - (B \cup C)]' = \underline{\hspace{2cm}}$$

Complete with: $\mathcal{U}, \phi, A, A', B, B', C, C'$

$$A \cap (B \cup B') = \underline{A}$$

$$C \cup (B \cup B') = \underline{\mathcal{U}}$$

$$A' \cap (A \cap B) = \underline{A'}$$

$$(B \cup C) \cap (B' \cup C) = \underline{C}$$

$$(A \cap B') \cup (A' \cup B) = \underline{\mathcal{U}}$$

$$[A \cap (B \cup A')] \cup [A - B] = \underline{A}$$

$$[(A \cup C) \cap (B' \cup C)] \cap [A' \cup (B \cup C)] = \underline{C}$$

$$[A' - (B \cup C)] \cap [A' - (B \cup C)]' = \underline{\phi}$$

Complete with: $\mathcal{U}, \emptyset, A, A', B, B', C, C'$

If $B \cap C' = \emptyset$ and $A \subset C'$ then

$$A \cap B' = \underline{\hspace{2cm}}$$

If $A \cap B = \emptyset$ and $A' \subset C$ then

$$B \cap C = \underline{\hspace{2cm}}$$

If $A \subset B$ and $A' \subset C$ then

$$B \cup C = \underline{\hspace{2cm}}$$

Complete with: $\mathcal{U}, \emptyset, A, A', B, B', C, C'$

If $B \cap C' = \emptyset$ and $A \subset C'$ then

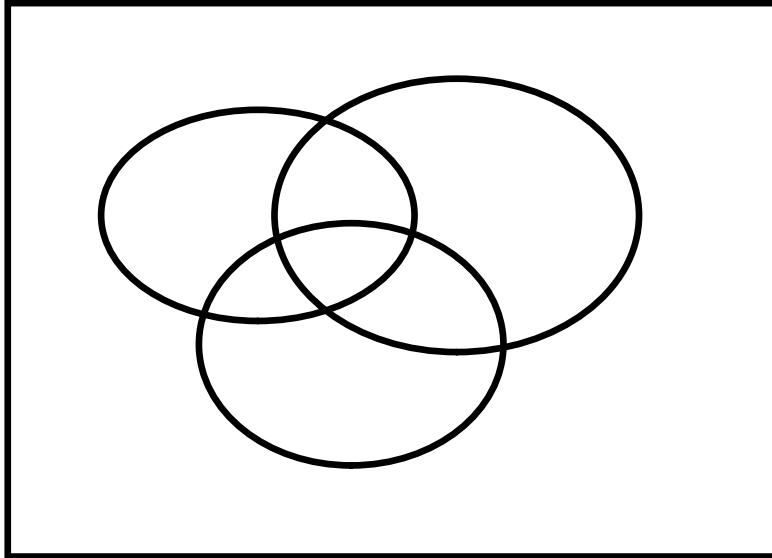
$$A \cap B' = \underline{A}$$

If $A \cap B = \emptyset$ and $A' \subset C$ then

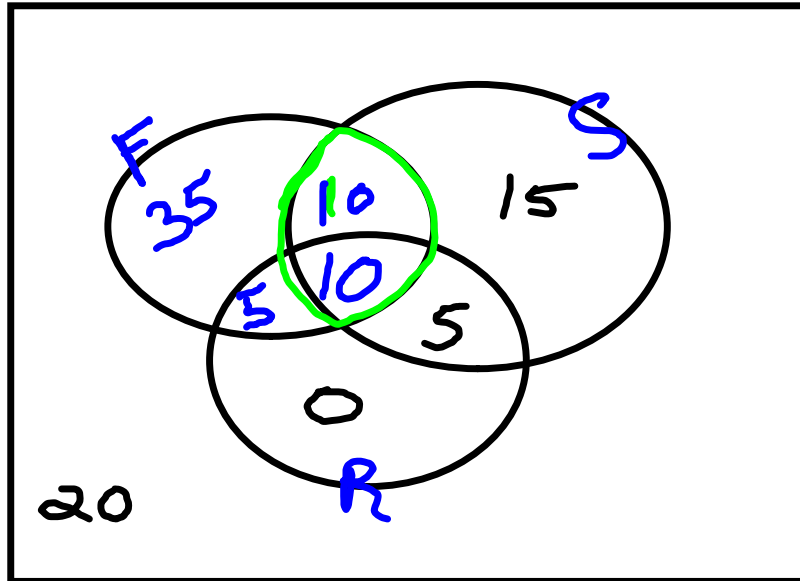
$$B \cap C = \underline{B}$$

If $A \subset B$ and $A' \subset C$ then

$$B \cup C = \underline{\mathcal{U}}$$



15 speak Russian and Spanish.
There are 100 people in a room. 60 speak
French. 40 speak Spanish. 20 speak
Russian. 10 speak all 3 languages. 20 speak
French and Spanish. 15 speak French and
Russian. How many speak only Russian?



15 speak Russian and Spanish.

There are 100 people in a room. 60 speak French. 40 speak Spanish. 20 speak Russian. 10 speak all 3 languages. ~~20 speak French and Spanish.~~ 15 speak French and Russian. How many speak only Russian? ○

