

SET THEORY

TEXT: 1.1, 1.2, 1.3, 1.4

LAST NAME	FIRST NAME	DATE
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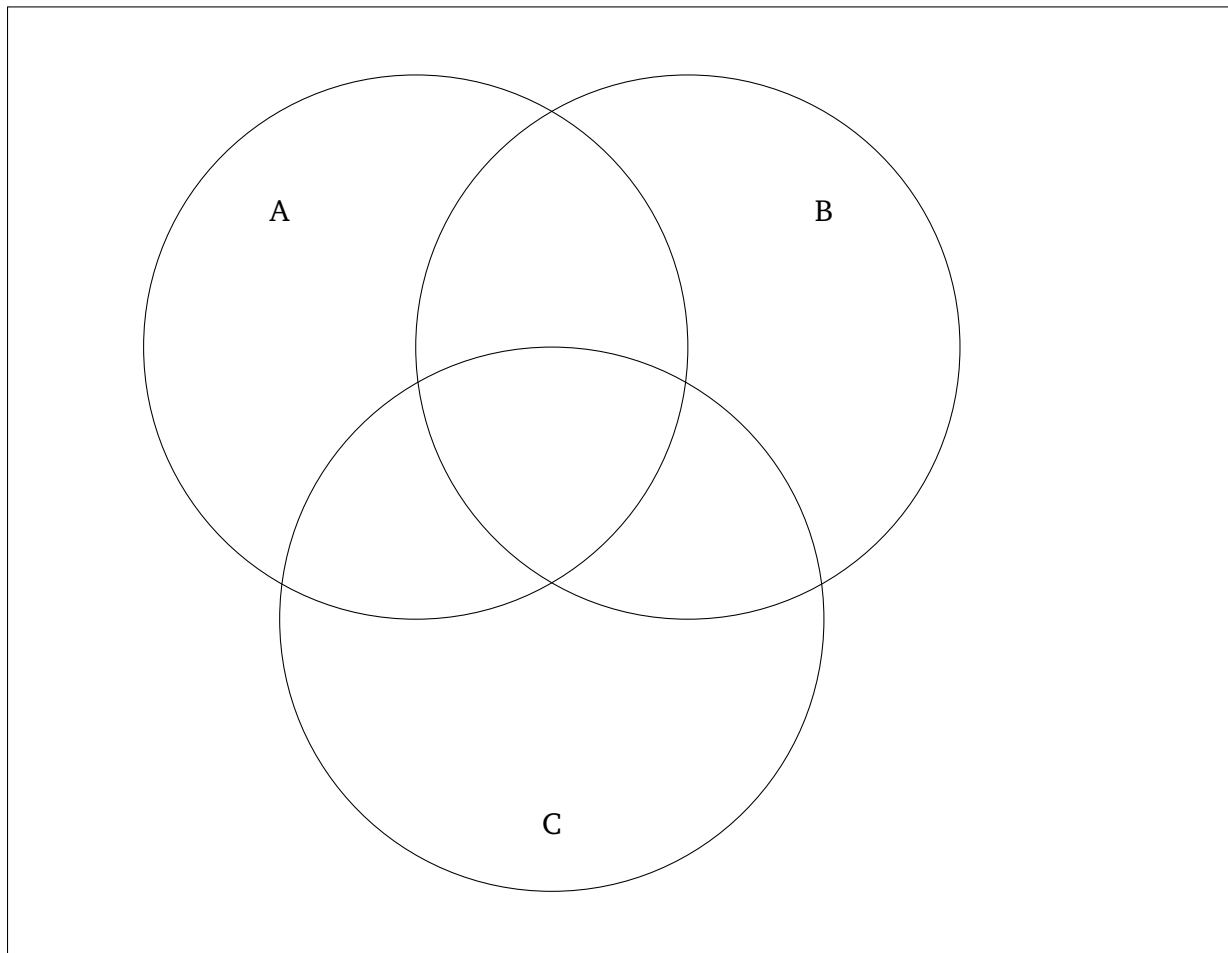
1. For this activity, you will be divided into groups of 3 or 2. If you are in a pair, pretend that the choice (C) is not here. Introduce yourself to your group and write down your names:

A:

B:

C:

Talk with your group mates and find out what kind of hobbies they have. Write the hobbies in appropriate areas of the diagram below. The goal is to fill out each of the 8 areas of the diagram (4 areas if you are in a pair) with at least one hobby.



2 (6 points). The universe U and the sets within it are defined as follows:

$$U = \{0, 1, 2, 3, 4, 5, 6, 7, 8, 9\}$$

$$A = \{2, 3, 5, 7, 9\}$$

$$B = \{0, 1, 5, 9\}$$

$$C = \{0, 1, 9\}$$

Use the roster notation to represent the following sets:

(a) $A \cup B$

(b) $B \cap (C')$

(c) $C \cap (A')$

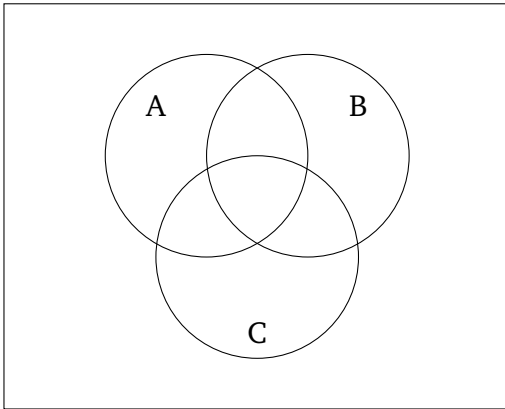
(d) $(A \cup C)'$

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

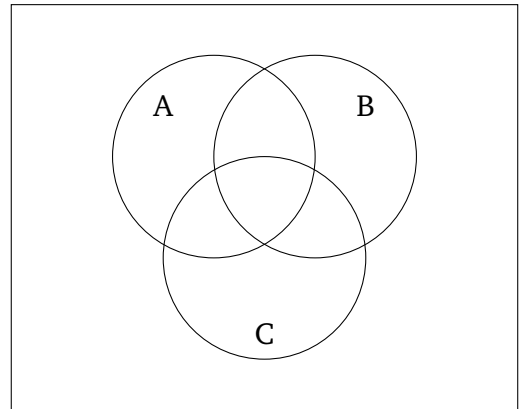
(f) $(A \cup C) \cap (B')$

3 (6 points). Use Venn diagrams to shade the following sets:

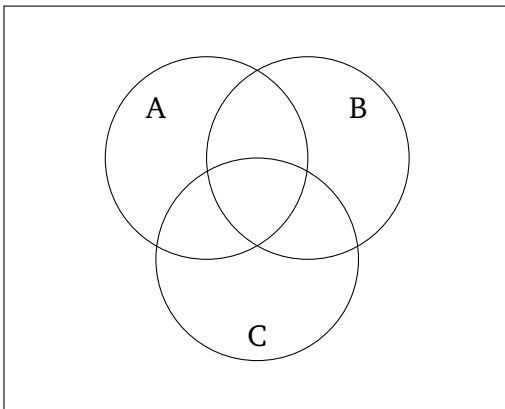
(a) $A \cap C$



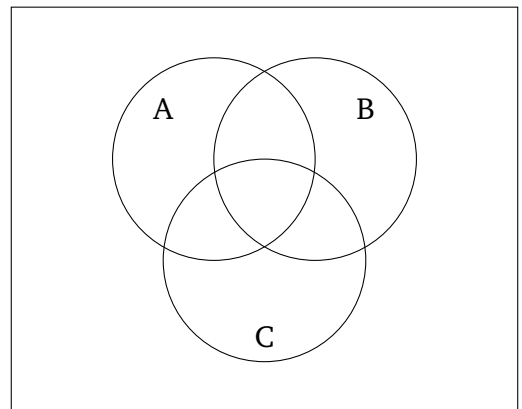
(d) $(A \cup B)'$



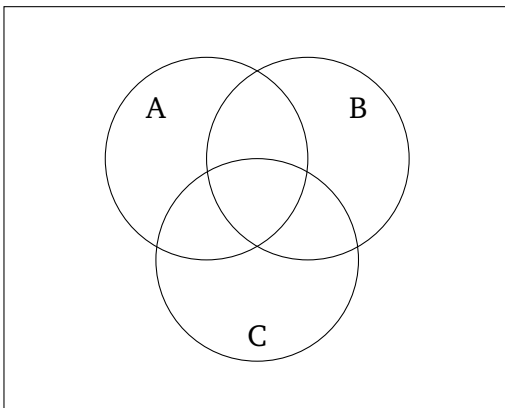
(b) $B \cup C$



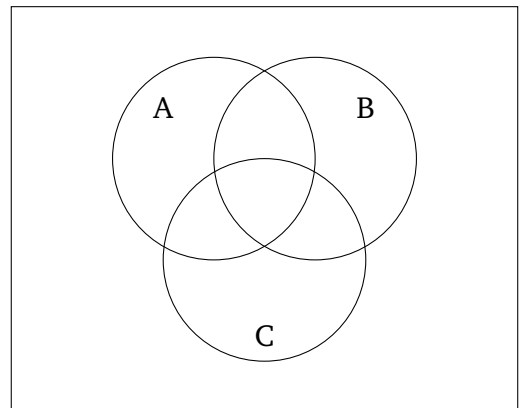
(e) $(A \cup B) \cap C$



(c) $B \cap (C')$

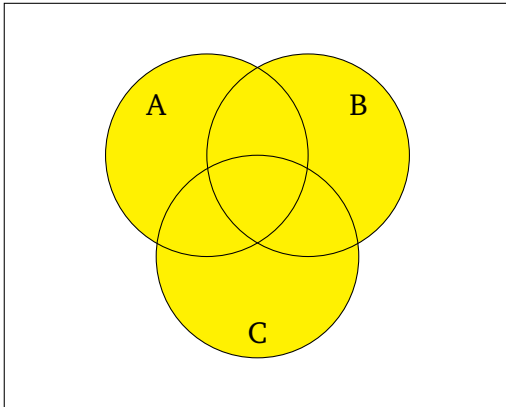


(f) $(A \cap B) \cap C$

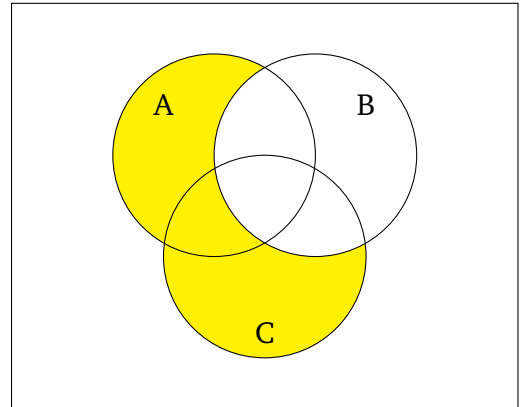


4 (6 points). For each of the Venn diagrams, write an algebraic expression for the shaded set:

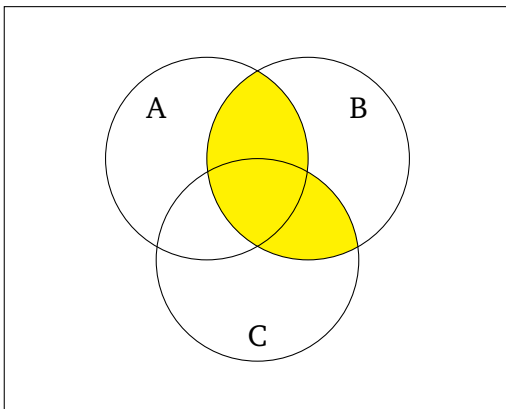
(a)



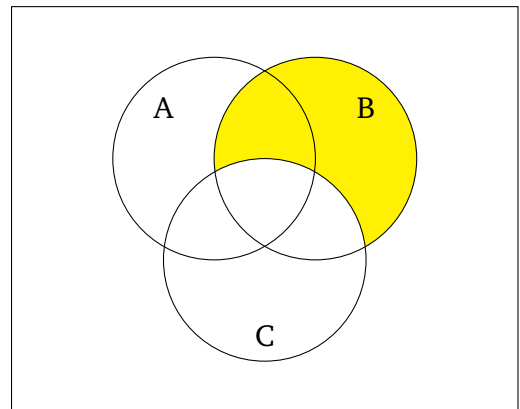
(d)



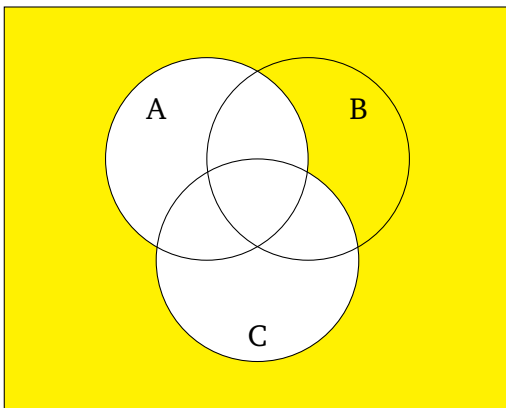
(b)



(e)



(c)



(f)

