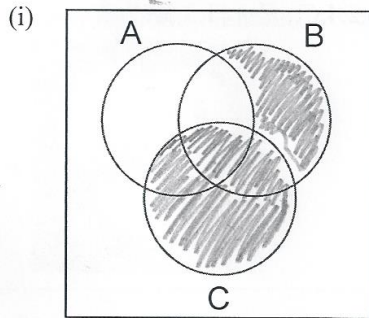
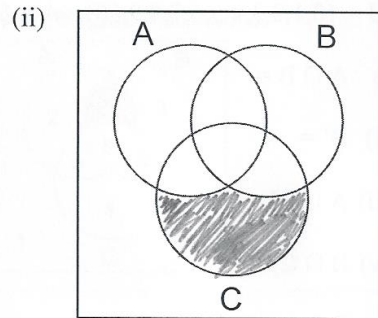


Math 211 Sets Practice Worksheet

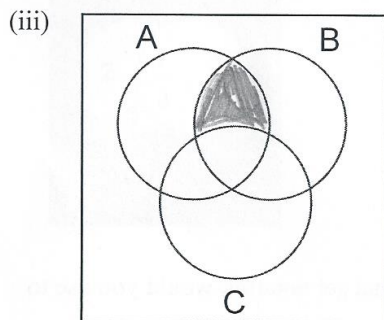
1. Shade the region of the Venn diagram indicated by the following sets.



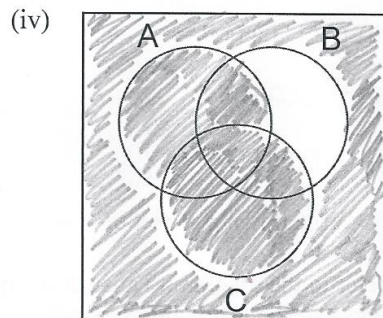
Shade: $(A \cap B) \cup C$



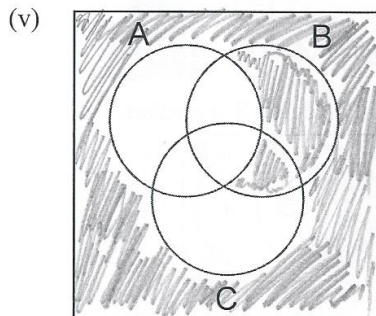
Shade: $(A \cup B)' \cap C$



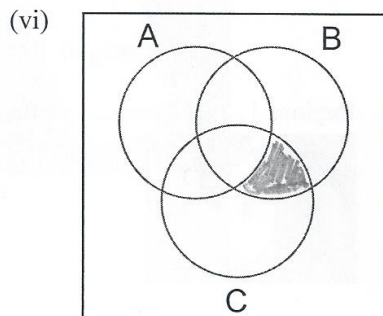
Shade: $A \cap (C' \cap B)$



Shade: $(A \cup B)' \cup C$



Shade: $A' \cap (C' \cup B)$



Shade: $(A \cup B)' \cap C$

Math 211 Sets Practice Worksheet

2. List the elements in each of the following sets.

Let $U = \{0,1,2,3,4,5,6,7,8,9,10\}$; $A = \{0,1,2,3,5,8\}$; $B = \{0,2,4,6\}$; $C = \{1,3,5,7\}$

i) $A \cap B = \{0,2\}$

ii) $B' = \{1,3,5,7,8,9,10\}$

iii) $A \cup B' = \{0,1,2,3,5,7,8,9,10\}$

iv) $B \cap C = \emptyset$

v) $B \cap C' = \{0,2,4,6\}$

vi) $A' \cap C = \{7\}$

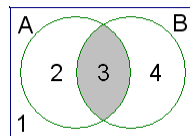
vii) $(A' \cup C) \cap B = \{4,6\}$

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

ix) $(A \cap C) \cup B = \{0,1,2,3,4,5,6\}$

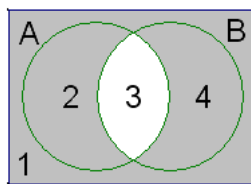
x) Write down a subset of A = answers may vary, but the set must contain only elements that are in A .

3. Refer to the diagram to answer the questions below. What set notation would you use to represent the following regions?



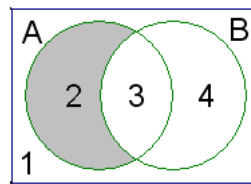
Example: Region 3 could be written as $A \cap B$

i) Regions 1, 2 and 4 are all shaded



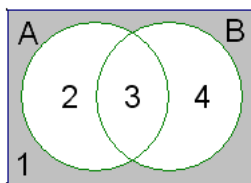
Answer:
 $(A \cap B)'$

ii) Only Region 2 is shaded.



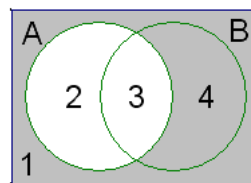
Answer:
 $A \cap B'$

iii) Only Region 1 is shaded.



Answer:
 $(A \cup B)'$

iv) Regions 1 and 4 are shaded.

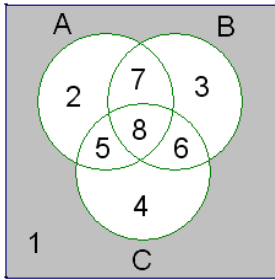


Answer:
 A'

Math 211 Sets Practice Worksheet

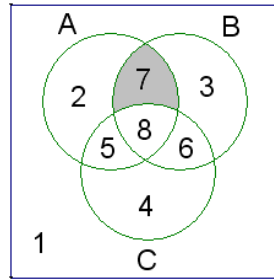
4. Refer to the diagram to answer the questions below. (Note: there can be more than one correct answer – email me if you are unsure)

i) Only Region 1 is shaded.



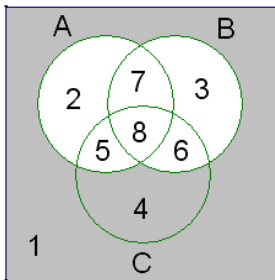
Answer:
 $(A \cup B \cup C)'$

ii) Only Region 7 is shaded.



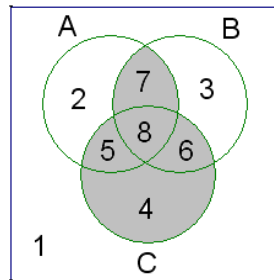
Answer:
 $A \cap B \cap C'$

iii) Regions 1 and 4 are shaded.



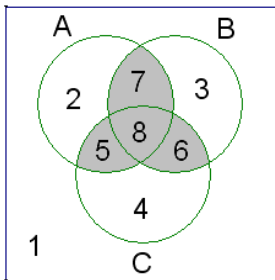
Answer:
 $(A \cup B)'$

iv) Regions 4, 5, 6, 7 and 8 are shaded.



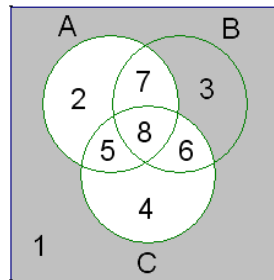
Answer:
 $(A \cap B) \cup C$

v) Regions 5, 6, 7 and 8 are shaded.



Answer:
 $(A \cap B) \cup (A \cap C) \cup (B \cap C)$

vi) Regions 1 and 3 are shaded.



Answer:
 $(A \cup C)'$