Xavier School
Module for Yunnan
SETS

EXERCISES: Venn Diagram and Set Operation

1. Construct a Venn Diagram and shade the appropriate regions:
   a.) $A \cup B$
   b.) $A \cap B$
   c.) B'
   d.) $A \cup B'$
   e.) $(A \cup B)'$

2. Given: $U = \{a, b, c, d, e, f, g, h\}$
   $A = \{a, b, d, e, h\}$
   $B = \{b, c, d, f\}$

   Find the following:
   a.) $A \cup B$
   b.) $A \cap B$
   c.) B'
   d.) $A \cup B'$
   e.) $(A \cup B)'$
   f.) $A' \cap B'$
   g.) $(A \cup B) \cap B$
   h.) $(A \cup B) \cup (A \cup B)'$
   i.) $(B \cup A)' \cap (B \cup A)$
   j.) $A' \cup (A \cap B)$

3. If U is the set of all Xavier High School students and A is the set of all Xavier High School students with a 90+ Math grade, define A'.

4. Given the sets U, A and B, construct a Venn diagram and place the elements in the proper regions.
   U = {rhombus, square, rectangle, parallelogram, trapezoid}
   A = {rhombus, square, rectangle}
   B = {square, trapezoid}

5. Let U represent the set of all rock bands in the Philippines during the period from 1983 to 1993. Let set A be the set of all rock bands that have recorded less than three albums during that period of time. Define A'.

6. Consider sets P and Q. Under what conditions would each of the following be true?

   a) $P \cup Q = \emptyset$
   b) $P \cup \emptyset = \emptyset$
   c) $P \cap Q = P$
   d) $P \cup Q = P$
   e) $P \cup Q = P \cap Q$