Tuesday, September 9

Objective: I can find the complement of a set

Warm up:

1. What does this mean? $A = \{x \mid -2 \leq x \leq 4, x \in \mathbb{Z}\}$

Integers between -2, 4 including -2 & 4

2. Write the set in #2 as a list -2, -1, 0, 1, 2, 3, 4

3. Write in set builder notation B={2, 3, 4, 5, 6}

$B = \{x \mid 2 \leq x \leq 6, x \in \mathbb{Z}\}$

$2 \leq x \leq 6$

When we are working with sets we have to identify what group of numbers/elements we are using- integers, real number, or a smaller group of numbers

This group we are using as our basic source of elements is called the UNIVERSAL SET and is always notated with a capital U.

For example
if U={1, 2, 3, 4, 5, 6} then we can only work with those 6 numbers

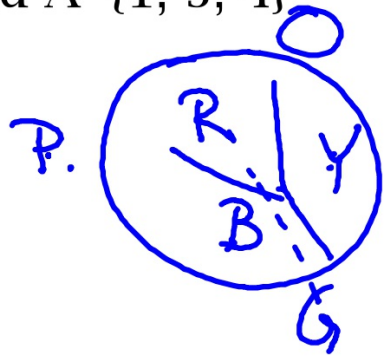
if A={1, 3, 4} then we notice that A is a subset of U

then $A \subseteq U$

The complement of set A-- which we write as A'-- is the set of elements that are in the universal set but NOT in set A

if U={1, 2, 3, 4, 5, 6} and A={1, 3, 4}

then A'= {2, 5, 6}



If U= {1, 2, 3, 4, 5, 6, 7, 8, 9}
A={1, 3, 5, 7}
B={ 2, 3, 6, 7, 8}

What are:

A'= {2, 4, 6, 8, 9}

B'= {1, 4, 5, 9}

$A' \cap B' = \{4, 9\}$

If U={letters in the English alphabet}
A={vowels}

What is A'= {consonants}

Assignment:

Do worksheet: Venn diagrams, complements of sets