

EB:

## Sets and Set Notation

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

$$A = \{x \mid x \text{ is even}\} = \{2, 4, 6, 8, 10\}$$

$$B = \{x : x \text{ is a multiple of } 4\} = \{4, 8\}$$

$$A \cap B = \{4, 8\} \quad A \cup B = \{2, 4, 6, 8, 10\}$$

$$C = \{x : x \text{ is prime}\} = \{2, 3, 5, 7\}$$

$$A \cap C = \{2\} \quad B \cup C = \{2, 3, 4, 5, 7, 8\}$$

$$\overline{B \cup C} = \{1, 6, 9, 10\} \quad A \cup (\overline{B \cup C}) = \{1, 2, 4, 6, 8, 9, 10\}$$

$$B \cap (A \cap C) = \emptyset \quad B \cup \overline{B} = U$$

Also....

$n(A)$  = the number of elements in  $A$

$$n(U) = 10 \quad n(A) = 5 \quad n(A \cap B) = 2$$

$$n(\overline{B \cup C}) = 4$$