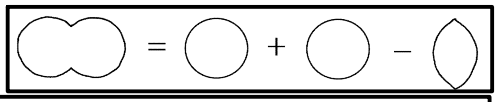
# P12 - 2.2 - Sets Venn Diagrams Review




Sets : A collection of distinct numbers or objects

Element : A number or object of the set

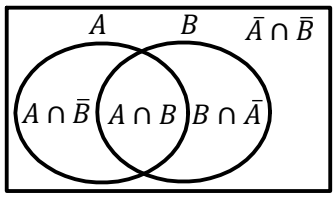
$\in$ : "Is an element of"

$\notin$ : "Is Not an element of"

$n(A)$ *or* $A$ : # elements in set A

$\emptyset$ : Empty Set

$\subset$ *:* Subset




$U$ Universal Set "All"

Set Notation

And : $\cap$

Or : $\cup$

Not : $\bar{@}$ $\quad \bar{A} = A'$

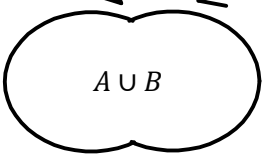
$\bar{A} \cup \bar{B} = (\overline{A \cap B})$

$\bar{A} \cap \bar{B} = (\overline{A \cup B})$

1st

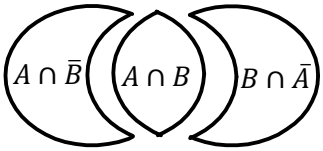
$A \cup B = A + B - A \cap B$

$A \cup B = U - \bar{A} \cap \bar{B}$




Union

Intersection




Compliment of B Compliment of A

Compliment "NOT"

Compliment of A $\bar{A}$ (A)

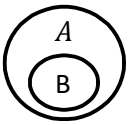
$A \cap B = \emptyset$

(Cat) (Dog)

Mutually Exclusive

$A \cup B = A + B$

$B \subset A$




Subset

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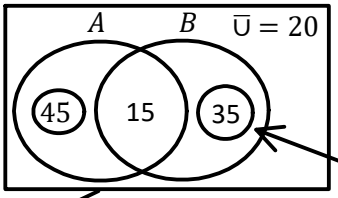
$U = 100$

$\bar{\cup} = 20$

$B \cap A = 15$

$B = 50$




$U = 100$

$B \cap \bar{A} = B - B \cap A$

$B \cap \bar{A} = 50 - 15$

$B \cap \bar{A} = 35$

$A \cup B = U - \bar{A} \cap \bar{B}$

$A \cup B = 100 - 20$

$A \cup B = 80$

Universe minus "Not" "Not"

$A \cup B = A + B - A \cap B$

$80 = A + 50 - 15$

$A = 45$

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$U = 100$

$\bar{\cup} = 10$

$A = 31$

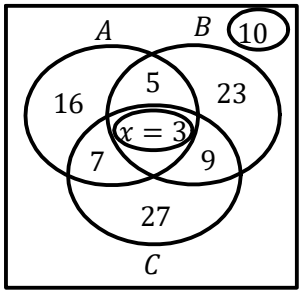
$B = 40$

$C = 46$

$B \cap A = 8$

$B \cap C = 12$

$C \cap A = 10$




100

$A \cup B = U - \bar{A} \cap \bar{B}$

$A \cup B = 100 - 10$

$A \cup B = 90$

*let* $x = B \cap A \cap C$

$8 - 3 = 5$

$12 - 3 = 9$

$10 - 3 = 7$

$31 - 3 - 7 - 5 = 16$

$A \cup B \cup C = A + B + C - A \cap B - A \cap C - B \cap C + A \cap B \cap C$

$90 = 31 + 40 + 46 - 8 - 10 - 12 + x$

$x = 3$

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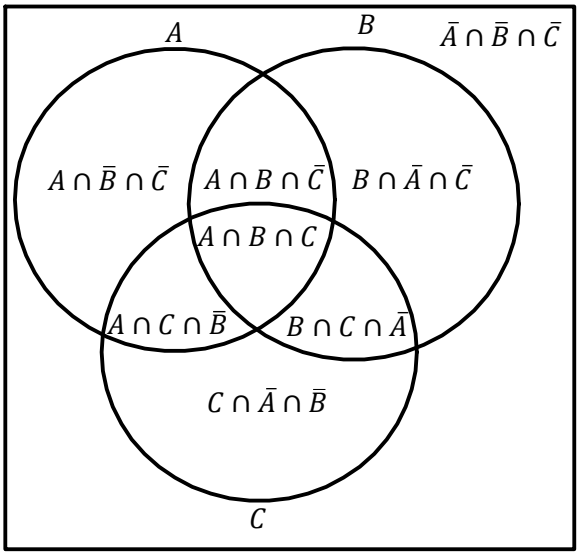


$A \cup B \cup C = A + B + C - A \cap B - A \cap C - B \cap C + A \cap B \cap C$