

Ex: $F \cap \{ \text{Bob, Joe} \} = \{ \}$

$\phi := \{ \}$ + empty / null set

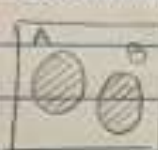
If A, B have infinite elements
then can:

$\therefore A \cap B = \phi \rightarrow \text{TRUE}$

$A = \{ 2, 4, 6, \dots \}$

$B = \{ 1, 3, 5, \dots \}$

As they don't share anything in common, so, if



$A \cap B = \phi$

$\Rightarrow A, B$ are Mutually Exclusive
or Disjoined.

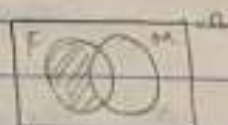
Ex: $\phi \notin F \rightarrow \text{TRUE}$

$\phi \in F \rightarrow \text{FALSE}$

$\phi \in F \rightarrow \text{TRUE}$

vacuously true
empty sets
is a subset of
every set.

* Set subtraction:-



$\therefore F \setminus M = \{ \text{Jane, Mary, Susan} \}$

↑
all elements in F except those
elements of M