Set Theory Symbols

$\in$ "is an element of"
$\notin$ "is not an element of"
$\subset$ "is a *proper* subset of"
$\subseteq$ "is a subset of"
$\not\subset$ "is not a subset of"
$\varnothing$ the empty set; a set with no elements
$\cap$ intersection
$\cup$ union

$\overline{A}$ or A' "the compliment of A"; all elements not in A
$A - B$ all elements in A but not in B
$n(A)$ "the number of elements in A"

$A = B$ "A is equal to B"; A and B contain the same elements
$A \cong B$ "A is equivalent to B"; A and B contain the same number of elements

Examples: U = {0, 1, 2, 3, 4, 5, 6, 7, 8, 9} A = {0, 2, 4, 6, 8} B = {0, 1, 2, 3, 4}

Statements 1 through 5 are all true.
1) $2 \in A$ 2 is an element of A
2) $3 \notin A$ 3 is not an element of A
3) $A \subset U$ A is a proper subset of U
4) $A \not\subset B$ A is not a subset of B
5) $A \cong B$ A is equivalent to B, both sets contain 5 elements

$A \cap B = \{0, 2, 4\}$ all elements in A and B; what the sets have in common
$A \cup B = \{0, 1, 2, 3, 4, 6, 8\}$ all elements in A or B; combine the sets, don't list anything twice