Set Theory Symbols

∈  “is an element of”
∉  “is not an element of”
⊂  “is a proper subset of”
⊆  “is a subset of”
⊄  “is not a subset of”
∅   the empty set; a set with no elements
∩   intersection
∪   union

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 ≅ 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 ∈ A   2 is an element of A
2)  3 ∈ A   3 is not an element of A
3)  A ⊆ U   A is a proper subset of U
4)  A ∉ B   A is not a subset of B
5)  A ≅ B   A is equivalent to B, both sets contain 5 elements

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