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Journal: 1.1
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1.1.1: Universal Conditional Statements

For all real numbers x, if x is nonzero then x^2 is positive.

1. If a real number is nonzero, then its square is positive. (universal: implicit, conditional: explicit)
2. For all nonzero real numbers x, x^2 is positive. (universal: explicit, conditional: implicit)
3. If x is a nonzero real number, then x^2 is positive. (universal: implicit, conditional: explicit)
4. The square of any nonzero real number is positive. (universal: explicit, conditional: implicit)
5. All nonzero real numbers have positive squares. (universal: explicit, conditional: implicit)

1.1.2: Universal Existential Statements

Every pot has a lid.

1. All pots have lids.
2. For all pots P, there is a lid.
3. For all pots P, there is a lid L such that L is a lid for P.

1.1.3: Existential Universal Statements

There is a person in my class who is at least as old as every person in my class.

1. Some person in my class is at least as old as every person in my class.
2. There is a person p in my class such that p is at least as old as every person in my class.
3. There is a person p in my class with the property that for every person q in my class, p is at least as old as q.

Test Yourself

1. A universal statement asserts that a certain property is true for all elements of a set.
2. A conditional statement asserts that of one thing is true then some other thing is also true.
3. A Given a property that may or may not be true, an existential statement asserts that there is at least one thing for which the property is true.