

Universal Rule of Instantiation:

If some property is true for everything in a set, then it is true of any particular thing in the set.

All dogs have fur
Fluffy is a dog

Universal fact for domain
Particular instance in domain

Fluffy has fur

Conclusion

Facts from algebra:

1. $\forall x \in \mathbb{R}, x^1 = x$
2. $\forall x \in \mathbb{R}, \forall m, n \in \mathbb{Z}, x^m * x^n = x^{m+n}$

Definition of even

$$\forall n \in \mathbb{Z}, n \text{ is even IFF } \exists k \in \mathbb{Z} \ni n = 2k$$

Definition: To say that an **argument form is valid means** the following: No matter what particular predicates are substituted for the predicate symbols in its premises, *if the resulting premise statements are all true, then the conclusion is also true.* An **argument is called valid** if, and only if, its form is valid.