Algebraic Properties

Addition Property

If $a = b$ then $a + c = b + c$

Subtraction Property

If $a = b$ then $a - c = b - c$

Multiplication Property

If $a = b$ then $ac = bc$

Division Property

If $a = b$ then $\frac{a}{c} = \frac{b}{c}$

Substitution Property

If $a = b$, *then* a may replaced by b in any equation or expression

Distributive Property

$a(b + c) = ab + ac$

More Properties of Algebra

Reflexive	For any number a, $a = a$
Symmetric	For all numbers a and b, if $a = b$ then $b = a$
Transitive	For all numbers a, b, and c, if $a = b$ and $b = c$, then $a = c$

Def. Proof

A logical step by step argument in which statement made is supported by statement that is accepted as true.

1. Given Information
2. Algebraic Properties
3. Definitions
4. Postulates
5. Theorems
6. Corollaries