



axioms



[illegible]



# algebraic properties\* [axioms]

## properties of equality and inequality (1)

property	equality	inequality
multiplicative property of zero	$a \cdot 0 = 0 = 0 \cdot a$	
zero product	if $ab = 0$ , then $a = 0$ or $b = 0$	
reflexive	$a = a$	
symmetric	if $a = b$ , then $b = a$	
transitive	if $a = b$ and $b = c$ , then $a = c$	if $a > b$ and $b > c$ , then $a > c$ if $a < b$ and $b < c$ , then $a < c$
addition	if $a = b$ , then $a + c = b + c$	if $a < b$ , then $a + c < b + c$ if $a > b$ , then $a + c > b + c$
subtraction	if $a = b$ , then $a - c = b - c$	if $a < b$ , then $a - c < b - c$ if $a > b$ , then $a - c > b - c$

\*given  $a$ ,  $b$ , and  $c$  are real numbers



# algebraic properties\* [axioms]

properties of equality and inequality (2)