

(1) Prove that for every real number x , $-(-x) = x$.

(2) Prove that for all real numbers x and y , $x = y$ if and only if $x - y = 0$.

(3) Prove that for all real numbers x and y , $-x - y = -(x + y)$.

(4) Prove that for all positive real numbers x and y , $x \cdot y$ is also a positive real number.

(5) Prove that for every real number x , $x \neq 0$ if and only if $x^2 > 0$.

(6) Prove that for all real numbers w , x , y , and z , if $w < x$ and $y < z$, then $w + y < x + z$.