

The *absolute value* of a real number x is denoted by $|x|$ and is defined as

$$|x| = \begin{cases} x & \text{if } x \geq 0 \\ -x & \text{if } x < 0. \end{cases}$$

Therefore, the absolute value is always greater than or equal to zero, and describes how far away the corresponding number is from the origin.

The absolute value of a real number is sometimes referred to as its modulus.