## Absolute Value

The absolute value of a number is always $\geq 0$.

$$\text{If } a > 0, |a| = a.$$
$$\text{If } a < 0, |-a| = a.$$

*For example,* $|-5| = 5$ and $|5| = 5$. In each case, the answer is positive.

**Absolute Value Function** – The absolute value of a real number x, $|x|$ is

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