

Properties of Absolute Value

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

$$|a| \geq 0 \qquad |-a| = |a|$$

$$|ab| = |a| |b| \qquad \left| \frac{a}{b} \right| = \frac{|a|}{|b|}$$

$$|a + b| \leq |a| + |b| \quad \text{Triangle Inequality}$$