Properties Of Absolute Value

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

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

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

$|a+b| \leq |a| + |b|$ $\quad$ Triangle Inequality