$\sqrt[2n]{a} < b \iff \begin{cases} b > 0 \\ a < b^{2n} \\ a \geq 0 \end{cases}$

$\sqrt[2n]{a} \leq b \iff \begin{cases} b \geq 0 \\ a \leq b^{2n} \\ a \geq 0 \end{cases}$

$\sqrt[2n]{a} > b \iff \left[\begin{cases} a > b^{2n} \\ b \geq 0 \end{cases} \right. \left. \begin{cases} b < 0 \\ a \geq 0 \end{cases}\right.$

$\sqrt[2n]{a} \geq b \iff \left[\begin{cases} a \geq b^{2n} \\ b \geq 0 \end{cases} \right. \left. \begin{cases} b < 0 \\ a \geq 0 \end{cases}\right.$