

$$\begin{array}{ccccc}
 1 & < & \sqrt[n]{2} & \leq & 1 + \frac{1}{n} \\
 \vdash & & \vdash & & \frown \\
 & & \downarrow & & \\
 & & 1 & & \\
 \rceil & & \rceil & & \smile
 \end{array}$$