Precalculus
Compute logarithm of a power of the base, radical notation

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Example

Compute the exact value of the expression as a rational number.

$$\log_7 \sqrt[3]{49}$$

Example

Compute the exact value of the expression as a rational number.

$$\begin{aligned}
\log_7 \sqrt[3]{49} &= \log_7 \left(49^{\frac{1}{3}}\right) \\
&= \frac{1}{3} \log_7 49 \\
&= \frac{1}{3} \log_7 7^2 \\
&= \frac{2}{3} \log_7 7 \\
&= \frac{2}{3}
\end{aligned}$$