

RADICACIÓN

Problema 53:

Simplifica:

$$\sqrt[2m]{\frac{x^{3m} + x^{3m+2}}{x^m + x^{m+2}}}$$

Siendo $m \in \mathbb{N}$; y $x \in \mathbb{R}$

Solución Problema 53:

$$\begin{aligned} \sqrt[2m]{\frac{x^{3m} + x^{3m+2}}{x^m + x^{m+2}}} &= \sqrt[2m]{\frac{x^{3m} + x^{3m} \cdot x^2}{x^m + x^m \cdot x^2}} = \sqrt[2m]{\frac{x^{3m} \cdot (1 + x^2)}{x^m \cdot (1 + x^2)}} = \\ &= \sqrt[2m]{\frac{x^{3m}}{x^m}} = \sqrt[2m]{x^{3m} \cdot x^{-m}} = \sqrt[2m]{x^{3m-m}} = \sqrt[2m]{x^{2m}} = x \end{aligned}$$