

PROBLEMAS DE EXPRESIONES ALGEBRAICAS Y OPERACIONES

Problema 123:

Simplificar:

$$A = \left(\sqrt{1+x} - \frac{1}{\sqrt{1-x}} \right) : \left(-\frac{1}{\sqrt{1-x^2}} + 1 \right)$$

Solución Problema 123:

$$\begin{aligned} A &= \left(\sqrt{1+x} - \frac{1}{\sqrt{1-x}} \right) : \left(-\frac{1}{\sqrt{1-x^2}} + 1 \right) = \left(\sqrt{1+x} - \frac{1}{\sqrt{1-x}} \right) : \left(1 - \frac{1}{\sqrt{1-x^2}} \right) \\ &= \left(\frac{\sqrt{1+x} \cdot \sqrt{1-x} - 1}{\sqrt{1-x}} \right) : \left(\frac{\sqrt{1-x^2} - 1}{\sqrt{1-x^2}} \right) = \left(\frac{\sqrt{1-x^2} - 1}{\sqrt{1-x}} \right) : \left(\frac{\sqrt{1-x^2} - 1}{\sqrt{1-x^2}} \right) = \\ &= \frac{\sqrt{1-x^2}}{\sqrt{1-x}} = \sqrt{\frac{1-x^2}{1-x}} = \sqrt{\frac{(1+x) \cdot \cancel{(1-x)}}{\cancel{1-x}}} = \sqrt{1+x} \\ A &= \left(\sqrt{1+x} - \frac{1}{\sqrt{1-x}} \right) : \left(-\frac{1}{\sqrt{1-x^2}} + 1 \right) = \sqrt{1+x} \end{aligned}$$