

FRACCIONES

Problema 65:

Simplifica la fracción:

$$\frac{1}{1 + \frac{a}{1 + a + \frac{2a^2}{1-a}}} \cdot \frac{1}{\left(a^2 + \frac{1}{a^2} + 2\right) : \left(a + \frac{1}{a}\right)} \cdot (1 + a)$$

Solución Problema 65:

$$\frac{1}{1 + \frac{a}{1 + a + \frac{2a^2}{1-a}}} \cdot \frac{1}{\left(a^2 + \frac{1}{a^2} + 2\right) : \left(a + \frac{1}{a}\right)} \cdot (1 + a)$$

$$\frac{1}{1 + \frac{a}{1 + a + \frac{2a^2}{1-a}}} \cdot \frac{1}{\frac{\left(a^2 + \frac{1}{a^2} + 2\right)}{\left(a + \frac{1}{a}\right)}} \cdot (1 + a)$$

$$\frac{1}{1 + \frac{a}{\frac{1 - a^2 + 2a^2}{1 - a}}} \cdot \frac{1}{\frac{a^4 + 1 + 2a^2}{\frac{a^2}{a^2 + 1}}} \cdot (1 + a)$$

FRACCIONES: Problema 65

$$1 + \frac{1}{\frac{1+a^2}{1-a}} \cdot \frac{1}{\frac{(a^2+1)^2}{a^2}} \cdot (1+a) = \frac{1}{1 + \frac{a(1-a)}{1+a^2}} \cdot \frac{(1+a)}{\frac{a(a^2+1)^2}{a^2(a^2+1)}} = \frac{1}{1+a^2+a-a^2} \cdot \frac{a(1+a)(a^2+1)}{(a^2+1)^2} =$$

$$\frac{1}{1+a} \cdot \frac{a(1+a)}{(a^2+1)} = \frac{1+a^2}{1+a} \cdot \frac{a(1+a)}{(a^2+1)} = \mathbf{a}$$