

PROBLEMAS DE EXPRESIONES ALGEBRAICAS Y OPERACIONES

Problema 27:

Transforma y simplifica la expresión

$$\left(1 - \frac{2a}{2a + \frac{2}{a}}\right) a^3 + a$$

hasta que resulte= a

Solución Problema 27:

$$\left(1 - \frac{2a}{2a + \frac{2}{a}}\right) a^3 + a = \left(1 - \frac{2a^2}{2a^2 + 2}\right) (a^3 + a)$$

$$\left(1 - \frac{\cancel{2}a^2}{\cancel{2}(a^2 + 1)}\right) (a^3 + a) = \left(1 - \frac{a^2}{a^2 + 1}\right) (a^3 + a) =$$

$$\left(1 - \frac{a^2}{a^2 + 1}\right) (a^3 + a) = \left(\frac{a^2 + 1 - a^2}{a^2 + 1}\right) (a^3 + a) = \left(\frac{1}{a^2 + 1}\right) (a^3 + a)$$

$$\left(\frac{1}{a^2 + 1}\right) (a^3 + a) = \left(\frac{1}{a^2 + 1}\right) a(a^2 + 1) = \frac{a(\cancel{a^2 + 1})}{\cancel{a^2 + 1}} = a$$