

Oefeningen niveau 3

Oefening 1. Bereken en vereenvoudig indien mogelijk.

$$1. \quad 1 - \frac{a-b \cdot \frac{a-b}{a+b}}{b-a \cdot \frac{a+b}{a-b}} = \frac{2a}{a+b}$$

$$2. \quad \frac{\left(-\left(x + \frac{a^2}{x+a}\right)\left(a + \frac{x^2}{a-x}\right)\right)}{x^6 - a^6} \cdot (x^2 - a^2)^2 = 1$$

$$3. \quad \frac{a}{a^2 - b^2} + \frac{a^2 - ab + b^2}{b^3 - a^3} - \frac{b}{(a+b)^2} = \frac{2a^2b^2}{(a-b)(a+b)^2(a^2 + ab + b^2)}$$

$$4. \quad \frac{a^2 + ab + b^2}{a^3 + b^3} + \frac{a^2 - ab + b^2}{a^3 - b^3} + \frac{4ab^4}{a^6 - b^6} = \frac{2a}{a^2 - b^2}$$

$$5. \quad \left(x + \frac{1}{x^2} + 3\left(1 + \frac{1}{x}\right)\right) : \left(\frac{1}{x}\left(1 + \frac{1}{x}\right)^2\right) = x(x+1)$$

$$6. \quad \frac{\frac{a+b}{a-b} + \frac{a-b}{a+b} + 2}{\frac{a+b}{a-b} + \frac{a-b}{a+b} - 2} : \frac{\frac{a+2b}{a-2b} + \frac{a-2b}{a+2b} + 2}{\frac{a+2b}{a-2b} + \frac{a-2b}{a+2b} - 2} = 4$$