

Opgave 1

$$x^2 - 4x = 21$$

$$x^2 - 4x - 21 = 0$$

$$(x - 7)(x + 3) = 0$$

$$x - 7 = 0 \text{ of } x + 3 = 0$$

$$x = 7 \text{ of } x = -3$$

Opgave 2

$$2x^4 - 8x^3 = 42x^2$$

$$x^4 - 4x^3 = 21x^2$$

$$x^4 - 4x^3 - 21x^2 = 0$$

$$x^2 \cdot (x^2 - 4x - 21) = 0$$

$$x^2 = 0 \text{ of } x^2 - 4x - 21 = 0$$

$$x = 0 \text{ of } (x - 7)(x + 3) = 0$$

$$x = 0 \text{ of } x - 7 = 0 \text{ of } x + 3 = 0$$

$$x = 0 \text{ of } x = 7 \text{ of } x = -3$$

Opgave 3

$$x^3 = x^2 + 12x$$

$$x^3 - x^2 - 12x = 0$$

$$x(x^2 - x - 12) = 0$$

$$x = 0 \text{ of } x^2 - x - 12 = 0$$

$$x = 0 \text{ of } (x - 4)(x + 3) = 0$$

$$x = 0 \text{ of } x = 4 \text{ of } x = -3$$

Opgave 4

$$x^4 - 8 \cdot x^2 - 9 = 0$$

$$\text{neem } y = x^2$$

$$y^2 - 8y - 9 = 0$$

$$(y - 9)(y + 1)$$

$$y = 9 \text{ of } y = -1$$

$$x^2 = 9 \text{ of } x^2 = -1$$

$$x^2 = 9$$

$$x = -3 \text{ of } x = 3$$

Opgave 5

$$x^6 - 16x^3 + 64 = 0$$

$$\text{neem } y = x^3$$

$$y^2 - 16y + 64 = 0$$

$$(y - 8)(y - 8) = 0 \text{ of } (y - 8)^2 = 0$$

$$y = 8$$

$$x^3 = 8$$

$$x = 2$$

Opgave 6

$$x - 13\sqrt{x} + 36 = 0$$

$$\text{neem } y = \sqrt{x}$$

$$y^2 - 13y + 36 = 0$$

$$(y - 9)(y - 4) = 0$$

$$y = 9 \text{ of } y = 4$$

$$\sqrt{x} = 9 \text{ of } \sqrt{x} = 4$$
$$x = 81 \text{ of } x = 16$$

Opgave 7

$$(x - 4)^2 - 5(x - 4) + 6 = 0$$

neem $y = x - 4$

$$y^2 - 5y + 6 = 0$$

$$y = 3 \text{ of } y = 2$$

$$x - 4 = 3 \text{ of } x - 4 = 2$$

$$x = 7 \text{ of } x = 6$$

Opgave 8

$$2x^2 - (x - 2)^2 = 1$$

$$2x^2 - \{x^2 - 4x + 4\} = 1$$

$$2x^2 - x^2 + 4x - 4 = 1$$

$$x^2 + 4x - 5 = 0$$

$$(x + 5)(x - 1) = 0$$

$$x = -5 \text{ of } x = 1$$