

Antw. 1.

$$x = \frac{-3 - \sqrt{3^2 - 4 \times 2 \times (-2)}}{2 \times 2} = \frac{-3 - \sqrt{25}}{4} = \frac{-3 - 5}{4} = -2$$

$$x = \frac{-3 + \sqrt{3^2 - 4 \times 2 \times (-2)}}{2 \times 2} = \frac{-3 + \sqrt{25}}{4} = \frac{-3 + 5}{4} = \frac{1}{2}$$

Antw. 2.

$$2x^2 = 3x$$

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

$$x(2x - 3) = 0$$

$$x = 0 \text{ en } 2x - 3 = 0$$

$$x = 0 \text{ en } x = \frac{3}{2}$$

Antw. 3.

$$32 - 2x^2 = 0$$

$$32 - 32 = 0$$

$$2x^2 = 32$$

$$x^2 = 16$$

$$x = -\sqrt{16} = -4 \text{ en } x = \sqrt{16} = 4$$

Antw. 4.

$$5x - 6 = x^2$$

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

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

$$(x - 3)(x - 2) = 0$$

$$x - 3 = 0 \text{ en } x - 2 = 0$$

$$x = 3 \text{ en } x = 2$$

Antw. 5.

$$16x - 32 = 3x^2$$

$$-3x^2 + 16x - 32 = 0$$

$$3x^2 - 16x + 32 = 0$$

$$x = \frac{16 - \sqrt{16^2 - 4 \times 3 \times 32}}{2 \times 3} = \frac{16 - \sqrt{-128}}{6}$$

geen oplossingen omdat de discriminant
(dat is het getal onder het wortelteken) negatief is.

Antw. 6.

$$16x + 32 = 5x^2$$

$$-5x^2 + 16x + 32 = 0$$

$$5x^2 - 16x - 32 = 0$$

$$x = \frac{16 - \sqrt{16^2 - 4 \times 5 \times (-32)}}{2 \times 5} = \frac{16 - \sqrt{896}}{10} \approx -1,39$$

$$\text{en } x = \frac{16 + \sqrt{896}}{10} \approx 4,59$$

Antw. 7.

$$(x-3)(x+2) = 36$$

$$x^2 - 3x + 2x - 6 = 36$$

$$x^2 - x - 42 = 0$$

$$(x+6)(x-7) = 0$$

$$x = -6 \text{ en } x = 7$$

Antw. 8.

$$16x = -3x^2$$

$$16x + 3x^2 = 0$$

$$x(16 + 3x) = 0$$

$$x = 0 \text{ en } 16 + 3x = 0$$

$$x = 0 \text{ en } x = -5\frac{1}{3}$$

Antw. 9.

$$(x-4)^2 = 25$$

$$5^2 = 25$$

$$(x-4)^2 = 5^2$$

$$x-4 = 5 \text{ en } x-4 = -5$$

$$x = 9 \text{ en } x = -1$$

Antw. 10.

$$(2x-1)(5-3x) = (4-x)(x+2) - 83$$

$$10x - 6x^2 - 5 + 3x = 4x + 8 - x^2 - 2x - 83$$

$$-5x^2 + 11x + 70 = 0$$

$$5x^2 - 11x - 70 = 0$$

$$x = \frac{11 - \sqrt{11^2 - 4 \times 5 \times (-70)}}{2 \times 5} = \frac{11 - 39}{10} = -2,8$$

$$\text{en } x = \frac{11 + 39}{10} = 5$$