

Gleichungen III

LÖSUNG NR. 4-10



4) $10x - 7(x - 7) = 5 + 15x + 8$

$$10x - 7x + 49 = 13 + 15x$$

$$3x + 49 = 13 + 15x \quad | - 3x$$

$$49 = 13 + 12x \quad | - 13$$

$$36 = 12x \quad | : 12$$

$$3 = x$$

5) $8x + 3 - 5x + 29 = 50$

$$3x + 32 = 50 \quad | - 32$$

$$3x = 18 \quad | : 3$$

$$x = 6$$

6) $6(x + 7) + 21x - 98 = 13x + 14$

$$6x + 42 + 21x - 98 = 13x + 14$$

$$27x - 56 = 13x + 14 \quad | - 13x$$

$$14x - 56 = 14 \quad | + 56$$

$$14x = 70 \quad | : 14$$

$$x = 5$$

7) $8x - 11(x - 4) = 4 + 2(11 - 8x) - 21$

$$8x - 11x + 44 = 4 + 22 - 16x - 21$$

$$-3x + 44 = 5 - 16x \quad | + 16x$$

$$13x + 44 = 5 \quad | - 44$$

$$13x = -39 \quad | : 13$$

$$x = -3$$

$$8) \quad 3 + (4 - 2x)(4 + x) = 6 + (2 + 2x)(2 - x) - 57$$

$$3 + 16 + 4x - 8x - 2x^2 = 6 + 4 - 2x + 4x - 2x^2 - 57$$

$$19 - 4x - 2x^2 = -47 + 2x - 2x^2 \quad | + 2x^2$$

$$19 - 4x = -47 + 2x \quad | + 4x$$

$$19 = -47 + 6x \quad | + 47$$

$$66 = 6x \quad | : 6$$

$$11 = x$$

$$9) \quad 5 + (6 - 4x)(6 + x) = 11 + (4 + 4x)(4 - x) - 16$$

$$5 + 36 + 6x - 24x - 4x^2 = 11 + 16 - 4x + 16x - 4x^2 - 16$$

$$41 - 18x - 4x^2 = 11 + 12x - 4x^2 \quad | + 4x^2$$

$$41 - 18x = 11 + 12x \quad | + 18x$$

$$41 = 11 + 30x \quad | - 11$$

$$30 = 30x \quad | : 30$$

$$1 = x$$

$$10) \quad 3 + 25x^2 + (6 - 5x)(5 + 6x) = 10 + (4 + 5x)(5 - x) + 83 + 30x$$

$$3 + 25x^2 + 30 + 36x - 25x - 30x^2 = 10 + 20 - 4x + 25x - 5x^2 + 83 + 30x$$

$$33 + 11x - 5x^2 = 113 + 51x - 5x^2 \quad | + 5x^2$$

$$33 + 11x = 113 + 51x \quad | - 11x$$

$$33 = 113 + 40x \quad | - 113$$

$$-80 = 40x \quad | : 40$$

$$-2 = x$$