

S. 91 Nr. 6

- a) $x^2 + 2xy + y^2 = (x+y)^2$
b) $1 - 2r + r^2 = (1-r)^2$
c) $a^2 + 2ab + b^2 = (a+b)^2$
d) $a^2 - b^2 = (a-b)(a+b)$
e) $18^2 + 36b + b^2 = (18+b)^2$
 $324 + 36b + b^2 = (18+b)^2$
f) $x^2 + 5xy + 6,25y^2 = (x+2,5)^2$

Nr. 7

- a) $x^2 + 16x + 64 = (x+8)^2$
b) $r^2 - 10r + 25 = (r-5)^2$
c) $y^2 - 14y + 49 = (y-7)^2$
d) $a^2 + 6ab + 9b^2 = (a+3b)^2$
e) $a^2 - 10ab + 25b^2 = (a-5b)^2$
f) $c^2 + 4cd + 4d^2 = (c+2d)^2$
g) $36s^2 - 48st + 16t^2 = (6s-4t)^2$
h) $81x^2 - 144xy + 64y^2 = (9x-8y)^2$
i) $16z^2 - 320zy + 2025y^2 = (4z-45y)^2$

№. 8

a) $x^2 - 10x + 25 = (x-5)^2$

$a^2 + 20a + 100 = (a+10)^2$

$y^2 - 50y + 625 = (y-25)^2$

b) $49 - 14y + y^2 = (7-y)^2$

$36 + 12b + b^2 = (6+b)^2$

$x^2 + 900 - 60x = (x-30)^2$

c) $a^2 + 5a + 6,25 = (a+2,5)^2$

$x^2 + 1,44 - 2,4x = (x-1,2)^2$

$0,81 + 1,8y + y^2 = (0,9+y)^2$

d) $a^2 - 9b^2 = (a-3b)(a+3b)$

$x^2 - 4y^2 = (x-2y)(x+2y)$

$0,01y^2 - x^2 = (0,1y-x)(0,1y+x)$

№. 10

a) $2x^2 + 4x + 2$

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

$= 2(x+1)^2$

$7x^2 + 14x + 7$

$= 7(x^2 + 2x + 1)$

$= 7(x+1)^2$

$2z^2 + 12z + 18$

$= 2(z^2 + 6z + 9)$

$= 2(z+3)^2$

b) $8a^2 + 32a + 32$

$= 8(a^2 + 4a + 4)$

$= 8(a+2)^2$

$9p^2 + 18pq + 9q^2$

$= 9(p^2 + 2pq + q^2)$

$= 9(p+q)^2$

$50x^2 + 120x + 72$

$= 2(25x^2 + 60x + 36)$

$= 2(5x+6)^2$

S. 95 Nr. 6

$$\begin{array}{rcll} \text{a)} & 7(2x-2) & = & 6(4x+7) & |T \\ & 14x-14 & = & 24x+42 & | -14x \\ & -14 & = & 10x+42 & | -42 \\ & -56 & = & 10x & | :10 \\ & -5,6 & = & x & \end{array}$$

$$\mathbb{L} = \{-5,6\}$$

$$\begin{array}{rcll} \text{b)} & 8(2x-3)-6 & = & 4x+30 & |T \\ & 16x-24-6 & = & 4x+30 & |T \\ & 16x-30 & = & 4x+30 & | +30 \\ & 16x & = & 4x+60 & | -4x \\ & 12x & = & 60 & | :12 \\ & x & = & 5 & \end{array}$$

$$\mathbb{L} = \{5\}$$

$$\begin{array}{rcll} \text{c)} & (x+2)(x+1) & = & x^2+5 & |T \\ & x^2+3x+2 & = & x^2+5 & | -x^2 \\ & 3x+2 & = & 5 & | -2 \\ & 3x & = & 3 & | :3 \\ & x & = & 1 & \end{array}$$

$$\mathbb{L} = \{1\}$$

$$\begin{array}{rcl}
 d) (x+4)(x-3) & = & (x+5)(x-2) \quad |T \\
 x^2+7x+12 & = & x^2+7x+10 \quad | -x^2 \\
 7x+12 & = & 7x+10 \quad | -7x \\
 12 & = & 10 \quad \downarrow \neq
 \end{array}$$

$$L = \{ \} = \emptyset$$

$$\begin{array}{rcl}
 e) (x-9)(x+1) & = & (x+5)^2 \quad |T \\
 x^2+10x+9 & = & x^2+10x+25 \quad | -x^2 \\
 10x+9 & = & 10x+25 \quad | -10x \\
 9 & = & 25 \quad \neq
 \end{array}$$

$$L = \{ \} = \emptyset$$

$$\begin{array}{rcl}
 f) (x-3)^2 & = & x^2+3 \quad |T \\
 x^2-6x+9 & = & x^2+3 \quad | -x^2 \\
 -6x+9 & = & 3 \quad | -9 \\
 -6x & = & -6 \quad | :(-6) \\
 x & = & 1
 \end{array}$$

$$L = \{1\}$$

$$\begin{array}{rcl}
 g) (2-x)^2 & = & (2+x)^2 \quad |T \\
 4-4x+x^2 & = & 4+4x+x^2 \quad | -x^2 \\
 4-4x & = & 4+4x \quad | +4x \\
 4 & = & 4+8x \quad | -4 \\
 0 & = & 8x \quad | :8 \\
 0 & = & x
 \end{array}$$

$$L = \{0\}$$

$$\begin{array}{rcll}
 \text{h)} & (x-4)^2 & = & (x-4)(x+4) - 2(x+2) & | \text{T} \\
 & x^2 - 8x + 16 & = & x^2 - 16 - 2x - 4 & | -x^2 \\
 & -8x + 16 & = & -20 - 2x & | +2x \\
 & -6x + 16 & = & -20 & | -16 \\
 & -6x & = & -36 & | :(-6) \\
 & x & = & 6 &
 \end{array}$$

$$L = \{6\}$$