

# Ausmultiplizieren 1

## I. Multiplizieren Sie aus:

- a)  $(5i + 9y)(7t + 6g)$
- b)  $(4n + 2d)(2q + m)$
- c)  $(5q + 7i)(6j + 3f)$
- d)  $(2h + 7x)(2r + 7p)$
- e)  $(2h + 5f)(8s + 5t)$
- f)  $(3n + 4e)(5h + 9p)$
- g)  $(2r + 3c)(2x + 7n)$
- h)  $(9u + 3d)(5o + 2g)$
- i)  $(p + 4t)(6o + 6x)$
- j)  $(3f + 9k)(5o + 5i)$

## II. Multiplizieren Sie aus:

- a)  $(6v + 3x)(3z + j)$
- b)  $(2c - 2z)(5j + 3g)$
- c)  $(2m + s)(4f + 4w)$
- d)  $(7v + 3h)(-o + 5f)$
- e)  $(9y + 9b)(c - 6y)$
- f)  $(4d - 4e)(8a - 6o)$
- g)  $(-5s - 7q)(2f - 2l)$
- h)  $(-8t + 2u)(2g + 4l)$
- i)  $(-4p + 6d)(7n - 9g)$
- j)  $(5e + 2j)(9d + 3o)$

## III. Multiplizieren Sie aus:

- a)  $(7,4n + 6,1j)(5,8q + 7,5b)$
- b)  $(4,5q + 2,5n)(0,3r - 4,6l)$
- c)  $(4,9m + 7,9w)(8,8b + 4,7j)$
- d)  $(0,5r + 1,5t)(3,2s - 0,9k)$
- e)  $(6,2a - 0,5x)(4l + 7,5x)$
- f)  $(-0,1e - 7,3u)(3q - 4,8h)$
- g)  $(5,7x + 8,5e)(7o + 3,4y)$
- h)  $(-6,3n + 5,6d)(-8,9g + 4,8k)$
- i)  $(-1,4w + 7o)(6,7r - 7,4p)$
- j)  $(-7,2z - 8,3t)(2,9o + 7,9v)$

## IV. Multiplizieren Sie aus:

- a)  $(3u - o)(-u + 8o)$
- b)  $(-6r + t)(7r - 3t)$
- c)  $(-5b + 6n)(-4b + 2n)$
- d)  $(9j + 8c)(-9j - 4c)$
- e)  $(8m + 5a)(7m + 5a)$
- f)  $(5m - 5e)(6m + 5e)$
- g)  $(5b - 2n)(5b + n)$
- h)  $(-9l + 4q)(l + 5q)$
- i)  $(4t - 4g)(-6t - g)$
- j)  $(3m + 2v)(-5m + 6v)$

**Lösungen auf der Rückseite/ der nächsten Seite**

# Ausmultiplizieren 1

## I. Multiplizieren Sie aus:

- a)  $(5i + 9y)(7t + 6g) = 35it + 30ig + 63yt + 54yg$
- b)  $(4n + 2d)(2q + m) = 8nq + 4nm + 4dq + 2dm$
- c)  $(5q + 7i)(6j + 3f) = 30qj + 15qf + 42ij + 21if$
- d)  $(2h + 7x)(2r + 7p) = 4hr + 14hp + 14xr + 49xp$
- e)  $(2h + 5f)(8s + 5t) = 16hs + 10ht + 40fs + 25ft$
- f)  $(3n + 4e)(5h + 9p) = 15nh + 27np + 20eh + 36ep$
- g)  $(2r + 3c)(2x + 7n) = 4rx + 14rn + 6cx + 21cn$
- h)  $(9u + 3d)(5o + 2g) = 45uo + 18ug + 15do + 6dg$
- i)  $(p + 4t)(6o + 6x) = 6po + 6px + 24to + 24tx$
- j)  $(3f + 9k)(5o + 5i) = 15fo + 15fi + 45ko + 45ki$

## II. Multiplizieren Sie aus:

- a)  $(6v + 3x)(3z + j) = 18vz + 6vj + 9xz + 3xj$
- b)  $(2c - 2z)(5j + 3g) = 10cj + 6cg - 10zj - 6zg$
- c)  $(2m + s)(4f + 4w) = 8mf + 8mw + 4sf + 4sw$
- d)  $(7v + 3h)(-o + 5f) = -7vo + 35vf - 3ho + 15hf$
- e)  $(9y + 9b)(c - 6y) = 9yc - 54y^2 + 9bc - 54by$
- f)  $(4d - 4e)(8a - 6o) = 32da - 24do - 32ea + 24eo$
- g)  $(-5s - 7q)(2f - 2l) = -10sf + 10sl - 14qf + 14ql$
- h)  $(-8t + 2u)(2g + 4l) = -16tg - 32tl + 4ug + 8ul$
- i)  $(-4p + 6d)(7n - 9g) = -28pn + 36pg + 42dn - 54dg$
- j)  $(5e + 2j)(9d + 3o) = 45ed + 15eo + 18jd + 6jo$

## III. Multiplizieren Sie aus:

- a)  $(7,4n + 6,1j)(5,8q + 7,5b) = 42,92nq + 55,5nb + 35,38jq + 45,75jb$
- b)  $(4,5q + 2,5n)(0,3r - 4,6l) = 1,35qr - 20,7ql + 0,75nr - 11,5nl$
- c)  $(4,9m + 7,9w)(8,8b + 4,7j) = 43,12mb + 23,03mj + 69,52wb + 37,13wj$
- d)  $(0,5r + 1,5t)(3,2s - 0,9k) = 1,6rs - 0,45rk + 4,8ts - 1,35tk$
- e)  $(6,2a - 0,5x)(4l + 7,5x) = 24,8al + 46,5ax - 2xl - 3,75x^2$
- f)  $(-0,1e - 7,3u)(3q - 4,8h) = -0,3eq + 0,48eh - 21,9uq + 35,04uh$
- g)  $(5,7x + 8,5e)(7o + 3,4y) = 39,9xo + 19,38xy + 59,5eo + 28,9ey$
- h)  $(-6,3n + 5,6d)(-8,9g + 4,8k) = 56,07ng - 30,24nk - 49,84dg + 26,88dk$
- i)  $(-1,4w + 7o)(6,7r - 7,4p) = -9,38wr + 10,36wp + 46,9or - 51,8op$
- j)  $(-7,2z - 8,3t)(2,9o + 7,9v) = -20,88zo - 56,88zv - 24,07to - 65,57tv$

## IV. Multiplizieren Sie aus:

- a)  $(3u - o)(-u + 8o) = -3u^2 + 25uo - 8o^2$
- b)  $(-6r + t)(7r - 3t) = -42r^2 + 25rt - 3t^2$
- c)  $(-5b + 6n)(-4b + 2n) = 20b^2 - 34bn + 12n^2$
- d)  $(9j + 8c)(-9j - 4c) = -81j^2 - 108jc - 32c^2$
- e)  $(8m + 5a)(7m + 5a) = 56m^2 + 75ma + 25a^2$
- f)  $(5m - 5e)(6m + 5e) = 30m^2 - 5me - 25e^2$
- g)  $(5b - 2n)(5b + n) = 25b^2 - 5bn - 2n^2$
- h)  $(-9l + 4q)(l + 5q) = -9l^2 - 41lq + 20q^2$
- i)  $(4t - 4g)(-6t - g) = -24t^2 + 20tg + 4g^2$
- j)  $(3m + 2v)(-5m + 6v) = -15m^2 + 8mv + 12v^2$

## Zerlegen 1

### I. Bringen Sie's in die Form $(\square + \square)(\square + \square)$ :

- a)  $20qh + 16qe + 10oh + 8oe$
- b)  $4bg + 32bn + 8mg + 64mn$
- c)  $18kx + 81kg + 12jx + 54jg$
- d)  $9fm + 54fz + 9em + 54ez$
- e)  $24vm + 3vf + 32km + 4kf$
- f)  $9nb + 5nv + 9ob + 5ov$
- g)  $49js + 49jg + 42ps + 42pg$
- h)  $2gp + 6gh + 12rp + 36rh$
- i)  $27nf + 36ny + 15of + 20oy$
- j)  $12dy + 18dn + 42my + 63mn$

### II. Bringen Sie's in die Form $(\square \pm \square)(\square \pm \square)$ :

- a)  $-24yk - 32yq - 12lk - 16lq$
- b)  $9id + 18i^2 + 8qd + 16qi$
- c)  $56vw + 49vq + 24mw + 21mq$
- d)  $42ie + 18ih - 35de - 15dh$
- e)  $-42gf + 28ge - 18sf + 12se$
- f)  $6mp + 8mo - 6up - 8uo$
- g)  $40u^2 + 64ua - 35hu - 56ha$
- h)  $40se - 64sp + 30ne - 48np$
- i)  $14p^2 - 35pr + 8xp - 20xr$
- j)  $-24lu - 6lq + 4ru + rq$

### III. Bringen Sie's in die Form $(\square + \square)(\square + \square)$ :

- a)  $42x^2 + 86xy + 40y^2$
- b)  $6i^2 + 15iv + 6v^2$
- c)  $63e^2 + 117ex + 54x^2$
- d)  $32e^2 + 104ei + 72i^2$
- e)  $10w^2 + 19wc + 6c^2$
- f)  $20g^2 + 67gz + 56z^2$
- g)  $28k^2 + 67kn + 9n^2$
- h)  $25z^2 + 70zh + 45h^2$
- i)  $21j^2 + 20jr + 4r^2$
- j)  $36u^2 + 42ux + 12x^2$

### IV. Bringen Sie's in die Form $(\square \pm \square)(\square \pm \square)$ :

- a)  $72w^2 + 121wy + 45y^2$
- b)  $-6o^2 - 20oh - 16h^2$
- c)  $-3s^2 + 3si + 36i^2$
- d)  $-14c^2 - 5cg + 24g^2$
- e)  $4e^2 - 18ez + 18z^2$
- f)  $-72y^2 - 37yj + 5j^2$
- g)  $-8f^2 - 44fo - 20o^2$
- h)  $45y^2 + 71yh - 18h^2$
- i)  $12e^2 + 44eu + 35u^2$
- j)  $16k^2 - 14km - 2m^2$

**Lösungen auf der Rückseite/ der nächsten Seite**

# Zerlegen 1

## Lösungen

### I. Bringen Sie's in die Form $(\square + \square)(\square + \square)$ :

- a)  $(4q + 2o)(5h + 4e) = 20qh + 16qe + 10oh + 8oe$
- b)  $(4b + 8m)(g + 8n) = 4bg + 32bn + 8mg + 64mn$
- c)  $(9k + 6j)(2x + 9g) = 18kx + 81kg + 12jx + 54jg$
- d)  $(9f + 9e)(m + 6z) = 9fm + 54fz + 9em + 54ez$
- e)  $(3v + 4k)(8m + f) = 24vm + 3vf + 32km + 4kf$
- f)  $(n + o)(9b + 5v) = 9nb + 5nv + 9ob + 5ov$
- g)  $(7j + 6p)(7s + 7g) = 49js + 49jg + 42ps + 42pg$
- h)  $(g + 6r)(2p + 6h) = 2gp + 6gh + 12rp + 36rh$
- i)  $(9n + 5o)(3f + 4y) = 27nf + 36ny + 15of + 20oy$
- j)  $(2d + 7m)(6y + 9n) = 12dy + 18dn + 42my + 63mn$

### II. Bringen Sie's in die Form $(\square \pm \square)(\square \pm \square)$ :

- a)  $(-4y - 2l)(6k + 8q) = -24yk - 32yq - 12lk - 16lq$
- b)  $(9i + 8q)(d + 2l) = 9id + 18i^2 + 8qd + 16qi$
- c)  $(7v + 3m)(8w + 7q) = 56vw + 49vq + 24mw + 21mq$
- d)  $(-6i + 5d)(-7e - 3h) = 42ie + 18ih - 35de - 15dh$
- e)  $(7g + 3s)(-6f + 4e) = -42gf + 28ge - 18sf + 12se$
- f)  $(m - u)(6p + 8o) = 6mp + 8mo - 6up - 8uo$
- g)  $(8u - 7h)(5u + 8a) = 40u^2 + 64ua - 35hu - 56ha$
- h)  $(8s + 6n)(5e - 8p) = 40se - 64sp + 30ne - 48np$
- i)  $(7p + 4x)(2p - 5r) = 14p^2 - 35pr + 8xp - 20xr$
- j)  $(-6l + r)(4u + q) = -24lu - 6lq + 4ru + rq$

### III. Bringen Sie's in die Form $(\square + \square)(\square + \square)$ :

- a)  $(7x + 5y)(6x + 8y) = 42x^2 + 86xy + 40y^2$
- b)  $(3i + 6v)(2i + v) = 6i^2 + 15iv + 6v^2$
- c)  $(9e + 9x)(7e + 6x) = 63e^2 + 117ex + 54x^2$
- d)  $(8e + 8i)(4e + 9i) = 32e^2 + 104ei + 72i^2$
- e)  $(5w + 2c)(2w + 3c) = 10w^2 + 19wc + 6c^2$
- f)  $(4g + 7z)(5g + 8z) = 20g^2 + 67gz + 56z^2$
- g)  $(4k + 9n)(7k + n) = 28k^2 + 67kn + 9n^2$
- h)  $(5z + 9h)(5z + 5h) = 25z^2 + 70zh + 45h^2$
- i)  $(3j + 2r)(7j + 2r) = 21j^2 + 20jr + 4r^2$
- j)  $(6u + 3x)(6u + 4x) = 36u^2 + 42ux + 12x^2$

### IV. Bringen Sie's in die Form $(\square \pm \square)(\square \pm \square)$ :

- a)  $(8w + 9y)(9w + 5y) = 72w^2 + 121wy + 45y^2$
- b)  $(6o + 8h)(-o - 2h) = -6o^2 - 20oh - 16h^2$
- c)  $(s - 4i)(-3s - 9i) = -3s^2 + 3si + 36i^2$
- d)  $(7c - 8g)(-2c - 3g) = -14c^2 - 5cg + 24g^2$
- e)  $(-2e + 6z)(-2e + 3z) = 4e^2 - 18ez + 18z^2$
- f)  $(-8y - 5j)(9y - j) = -72y^2 - 37yj + 5j^2$
- g)  $(-f - 5o)(8f + 4o) = -8f^2 - 44fo - 20o^2$
- h)  $(5y + 9h)(9y - 2h) = 45y^2 + 71yh - 18h^2$
- i)  $(2e + 5u)(6e + 7u) = 12e^2 + 44eu + 35u^2$
- j)  $(2k - 2m)(8k + m) = 16k^2 - 14km - 2m^2$

## Binome 1

### I. Rechnen Sie's aus

- a)  $(i + 6l)^2$
- b)  $(2f + 6j)^2$
- c)  $(2m + s)^2$
- d)  $(9j + 9l)^2$
- e)  $(3r + 4h)^2$
- f)  $(5o - 2f)^2$
- g)  $(7o - 9r)^2$
- h)  $(7x - l)^2$
- i)  $(6c - 9p)^2$
- j)  $(7x - 6s)^2$
- k)  $(9b + 4x)(9b - 4x)$
- l)  $(8r + l)(8r - l)$
- m)  $(7w + c)(7w - c)$
- n)  $(8m + 3w)(8m - 3w)$
- o)  $(2w + n)(2w - n)$

### II. Rekonstruieren Sie die binomische Formel:

- a)  $25a^2 + 30am + 9m^2$
- b)  $4e^2 - 16f^2$
- c)  $36m^2 - 25q^2$
- d)  $16o^2 + 48ou + 36u^2$
- e)  $81g^2 - 18gk + k^2$
- f)  $9f^2 - 4q^2$
- g)  $81e^2 + 18ed + d^2$
- h)  $64k^2 - 16g^2$
- i)  $64p^2 - 36s^2$
- j)  $64s^2 - 16sx + x^2$
- k)  $x^2 + 6xy + 9y^2$
- l)  $25n^2 + 70ny + 49y^2$
- m)  $25h^2 + 60hv + 36v^2$
- n)  $81e^2 + 18ed + d^2$
- o)  $81u^2 - 162ud + 81d^2$
- p)  $25a^2 + 50az + 25z^2$

### III. Finden Sie die quadratische Ergänzung :

- a)  $9c^2 - 12cz$
- b)  $36r^2 - 24ro$
- c)  $4w^2 + 8wp$
- d)  $36i^2 - 36it$
- e)  $49i^2 + 112ir$
- f)  $49f^2 - 42fq$
- g)  $81h^2 - 90hx$
- h)  $36j^2 + 36jp$
- i)  $16o^2 + 24ot$
- j)  $q^2 + 10qc$
- k)  $16q^2 + 32qt$
- l)  $25e^2 - 20eh$

**Lösungen auf der Rückseite/ der nächsten Seite**

# Binome 1

## Lösungen

### I. Rechnen Sie's aus

a)	$(i + 6l)^2$	=	$i^2 + 12il + 36l^2$
b)	$(2f + 6j)^2$	=	$4f^2 + 24fj + 36j^2$
c)	$(2m + s)^2$	=	$4m^2 + 4ms + s^2$
d)	$(9j + 9l)^2$	=	$81j^2 + 162jl + 81l^2$
e)	$(3r + 4h)^2$	=	$9r^2 + 24rh + 16h^2$
f)	$(5o - 2f)^2$	=	$25o^2 - 20of + 4f^2$
g)	$(7o - 9r)^2$	=	$49o^2 - 126or + 81r^2$
h)	$(7x - l)^2$	=	$49x^2 - 14xl + l^2$
i)	$(6c - 9p)^2$	=	$36c^2 - 108cp + 81p^2$
j)	$(7x - 6s)^2$	=	$49x^2 - 84xs + 36s^2$
k)	$(9b + 4x)(9b - 4x)$	=	$81b^2 - 16x^2$
l)	$(8r + l)(8r - l)$	=	$64r^2 - l^2$
m)	$(7w + c)(7w - c)$	=	$49w^2 - c^2$
n)	$(8m + 3w)(8m - 3w)$	=	$64m^2 - 9w^2$
o)	$(2w + n)(2w - n)$	=	$4w^2 - n^2$

### II. Erkennen Sie die binomische Formel:

a)	$(5a + 3m)^2$	=	$25a^2 + 30am + 9m^2$
b)	$(2e + 4f)(2e - 4f)$	=	$4e^2 - 16f^2$
c)	$(6m + 5q)(6m - 5q)$	=	$36m^2 - 25q^2$
d)	$(4o + 6u)^2$	=	$16o^2 + 48ou + 36u^2$
e)	$(9g - k)^2$	=	$81g^2 - 18gk + k^2$
f)	$(3f + 2q)(3f - 2q)$	=	$9f^2 - 4q^2$
g)	$(9e + d)^2$	=	$81e^2 + 18ed + d^2$
h)	$(8k + 4g)(8k - 4g)$	=	$64k^2 - 16g^2$
i)	$(8p + 6s)(8p - 6s)$	=	$64p^2 - 36s^2$
j)	$(8s - x)^2$	=	$64s^2 - 16sx + x^2$
k)	$(x + 3y)^2$	=	$x^2 + 6xy + 9y^2$
l)	$(5n + 7y)^2$	=	$25n^2 + 70ny + 49y^2$
m)	$(5h + 6v)^2$	=	$25h^2 + 60hv + 36v^2$
n)	$(9e + d)^2$	=	$81e^2 + 18ed + d^2$
o)	$(9u - 9d)^2$	=	$81u^2 - 162ud + 81d^2$
p)	$(5a + 5z)^2$	=	$25a^2 + 50az + 25z^2$

### III. Finden Sie die quadratische Ergänzung :

a)	$9c^2 - 12cz$	+ $4z^2$	=	$(3c - 2z)^2$
b)	$36r^2 - 24ro$	+ $4o^2$	=	$(6r - 2o)^2$
c)	$4w^2 + 8wp$	+ $4p^2$	=	$(2w + 2p)^2$
d)	$36i^2 - 36it$	+ $9t^2$	=	$(6i - 3t)^2$
e)	$49i^2 + 112ir$	+ $64r^2$	=	$(7i + 8r)^2$
f)	$49f^2 - 42fq$	+ $9q^2$	=	$(7f - 3q)^2$
g)	$81h^2 - 90hx$	+ $25x^2$	=	$(9h - 5x)^2$
h)	$36j^2 + 36jp$	+ $9p^2$	=	$(6j + 3p)^2$
i)	$16o^2 + 24ot$	+ $9t^2$	=	$(4o + 3t)^2$
j)	$q^2 + 10qc$	+ $25c^2$	=	$(q + 5c)^2$
k)	$16q^2 + 32qt$	+ $16t^2$	=	$(4q + 4t)^2$
l)	$25e^2 - 20eh$	+ $4h^2$	=	$(5e - 2h)^2$

## Binome 2

### I. Rechnen Sie's aus

- a)  $(5,7g - 6,2a)^2$
- b)  $(9k + 1,2z)(9k - 1,2z)$
- c)  $(8,3r + 7,8x)(8,3r - 7,8x)$
- d)  $(9c + 2p)^2$
- e)  $(4,5l + 7,7r)^2$
- f)  $(8,2k + 0,7z)(8,2k - 0,7z)$
- g)  $(6,6j + 8,9z)^2$
- h)  $(1,6y + 3,6u)(1,6y - 3,6u)$
- i)  $(1,8l + 1,3s)(1,8l - 1,3s)$
- j)  $(0,1u + 6,4i)^2$
- k)  $(0,9o - 0,5h)^2$
- l)  $(1,4j + 1,9m)^2$
- m)  $(3,6z - 4l)^2$
- n)  $(6,3k + 7,4f)^2$
- o)  $(5,8s + 7,8e)^2$
- p)  $(7,1i - 6,8v)^2$

### II. Rekonstruieren Sie die binomische Formel:

- a)  $64w^2 + 144wc + 81c^2$
- b)  $d^2 - 6di + 9i^2$
- c)  $36i^2 + 36ik + 9k^2$
- d)  $16x^2 + 24xo + 9o^2$
- e)  $9b^2 - 49h^2$
- f)  $4x^2 - 24xz + 36z^2$
- g)  $36v^2 - 64p^2$
- h)  $36d^2 + 84de + 49e^2$
- i)  $13,69o^2 + 7,4oc + c^2$
- j)  $39,69r^2 - 4,41l^2$
- k)  $62,41o^2 + 61,62ob + 15,21b^2$
- l)  $65,61c^2 - 33,64h^2$
- m)  $22,09g^2 + 7,52gl + 0,64l^2$
- n)  $24,01m^2 - 67,24j^2$

### III. Finden Sie die quadratische Ergänzung :

- a)  $0,16j^2 - 1,2jc$
- b)  $13,69d^2 + 20,72dz$
- c)  $60,84p^2 - 3,12pj$
- d)  $3,61r^2 + 15,2re$
- e)  $10,89e^2 - 5,28ej$
- f)  $20,25y^2 - 75,6yg$
- g)  $0,49b^2 + 6,3bu$
- h)  $54,76f^2 + 106,56fq$
- i)  $7,29w^2 - 48,6wb$
- j)  $4,41e^2 + 6,3ex$
- k)  $60,84u^2 - 59,28us$
- l)  $73,96d^2 + 122,12dz$
- m)  $73,96w^2 + 79,12wq$
- n)  $53,29o^2 + 56,94oi$
- o)  $10,89t^2 - 10,56tn$

**Lösungen auf der Rückseite/ der nächsten Seite**

## Binome 2

### Lösungen

#### I. Rechnen Sie's aus

a)	$(5,7g - 6,2a)^2$	=	$32,49g^2 - 70,68ga + 38,44a^2$
b)	$(9k + 1,2z)(9k - 1,2z)$	=	$81k^2 - 1,44z^2$
c)	$(8,3r + 7,8x)(8,3r - 7,8x)$	=	$68,89r^2 - 60,84x^2$
d)	$(9c + 2p)^2$	=	$81c^2 + 36cp + 4p^2$
e)	$(4,5l + 7,7r)^2$	=	$20,25l^2 + 69,3lr + 59,29r^2$
f)	$(8,2k + 0,7z)(8,2k - 0,7z)$	=	$67,24k^2 - 0,49z^2$
g)	$(6,6j + 8,9z)^2$	=	$43,56j^2 + 117,48jz + 79,21z^2$
h)	$(1,6y + 3,6u)(1,6y - 3,6u)$	=	$2,56y^2 - 12,96u^2$
i)	$(1,8l + 1,3s)(1,8l - 1,3s)$	=	$3,24l^2 - 1,69s^2$
j)	$(0,1u + 6,4i)^2$	=	$0,01u^2 + 1,28ui + 40,96i^2$
k)	$(0,9o - 0,5h)^2$	=	$0,81o^2 - 0,9oh + 0,25h^2$
l)	$(1,4j + 1,9m)^2$	=	$1,96j^2 + 5,32jm + 3,61m^2$
m)	$(3,6z - 4)^2$	=	$12,96z^2 - 28,8z + 16$
n)	$(6,3k + 7,4f)^2$	=	$39,69k^2 + 93,24kf + 54,76f^2$
o)	$(5,8s + 7,8e)^2$	=	$33,64s^2 + 90,48se + 60,84e^2$
p)	$(7,1i - 6,8v)^2$	=	$50,41i^2 - 96,56iv + 46,24v^2$

#### II. Erkennen Sie die binomische Formel:

a)	$(8w + 9c)^2$	=	$64w^2 + 144wc + 81c^2$
b)	$(d - 3i)^2$	=	$d^2 - 6di + 9i^2$
c)	$(6i + 3k)^2$	=	$36i^2 + 36ik + 9k^2$
d)	$(4x + 3o)^2$	=	$16x^2 + 24xo + 9o^2$
e)	$(3b + 7h)(3b - 7h)$	=	$9b^2 - 49h^2$
f)	$(2x - 6z)^2$	=	$4x^2 - 24xz + 36z^2$
g)	$(6v + 8p)(6v - 8p)$	=	$36v^2 - 64p^2$
h)	$(6d + 7e)^2$	=	$36d^2 + 84de + 49e^2$
i)	$(3,7o + c)^2$	=	$13,69o^2 + 7,4oc + c^2$
j)	$(6,3r + 2,1l)(6,3r - 2,1l)$	=	$39,69r^2 - 4,41l^2$
k)	$(7,9o + 3,9b)^2$	=	$62,41o^2 + 61,62ob + 15,21b^2$
l)	$(8,1c + 5,8h)(8,1c - 5,8h)$	=	$65,61c^2 - 33,64h^2$
m)	$(5,8s + 7,8e)^2$	=	$22,09g^2 + 7,52gl + 0,64l^2$
n)	$(4,9m + 8,2j)(4,9m - 8,2j)$	=	$24,01m^2 - 67,24j^2$

#### III. Finden Sie die quadratische Ergänzung :

a)	$0,16j^2 - 1,2jc$	+ $2,25c^2$	=	$(0,4j - 1,5c)^2$
b)	$13,69d^2 + 20,72dz$	+ $7,84z^2$	=	$(3,7d + 2,8z)^2$
c)	$60,84p^2 - 3,12pj$	+ $0,04j^2$	=	$(7,8p - 0,2j)^2$
d)	$3,61r^2 + 15,2re$	+ $16e^2$	=	$(1,9r + 4e)^2$
e)	$10,89e^2 - 5,28ej$	+ $0,64j^2$	=	$(3,3e - 0,8j)^2$
f)	$20,25y^2 - 75,6yg$	+ $70,56g^2$	=	$(4,5y - 8,4g)^2$
g)	$0,49b^2 + 6,3bu$	+ $20,25u^2$	=	$(0,7b + 4,5u)^2$
h)	$54,76f^2 + 106,56fq$	+ $51,84q^2$	=	$(7,4f + 7,2q)^2$
i)	$7,29w^2 - 48,6wb$	+ $81b^2$	=	$(2,7w - 9b)^2$
j)	$4,41e^2 + 6,3ex$	+ $2,25x^2$	=	$(2,1e + 1,5x)^2$
k)	$60,84u^2 - 59,28us$	+ $14,44s^2$	=	$(7,8u - 3,8s)^2$
l)	$73,96d^2 + 122,12dz$	+ $50,41z^2$	=	$(8,6d + 7,1z)^2$
m)	$73,96w^2 + 79,12wq$	+ $21,16q^2$	=	$(8,6w + 4,6q)^2$
n)	$53,29o^2 + 56,94oi$	+ $15,21i^2$	=	$(7,3o + 3,9i)^2$
o)	$10,89t^2 - 10,56tn$	+ $2,56n^2$	=	$(3,3t - 1,6n)^2$



## Binome 3

### I. Rechnen Sie's aus

- a)  $(4,5za + 4,6t)(4,5za - 4,6t)$
- b)  $(4v + 1,3jk)^2$
- c)  $(2,4my + 2,9nk)^2$
- d)  $(5,4iv + 4q)^2$
- e)  $(6,7et - 1,7so)^2$
- f)  $(8,6jh + 4,1su)(8,6jh - 4,1su)$
- g)  $(4,1pk + 6,3h)^2$
- h)  $(7,8yq + 3,4mb)^2$
- i)  $(1,7c + wr)^2$
- j)  $(5,9juh + 3,4r)^2$
- k)  $(6,3w + 7,6ga)^2$
- l)  $(3,2np + 0,7mq)^2$
- m)  $(3cd + 5l)^2$
- n)  $(7,2kl + 4,8w)(7,2kl - 4,8w)$

### II. Rekonstruieren Sie die binomische Formel:

- a)  $16u^2l^2 - 32ulp + 16p^2$
- b)  $16k^2u^2 - 16kzua + 4z^2a^2$
- c)  $25e^2 - 16v^2w^2$
- d)  $49h^2g^2 + 28ghi + 4i^2$
- e)  $64u^2m^2 - 25v^2$
- f)  $64s^2d^2 - 64v^2r^2$
- g)  $z^2c^2 + 12cjz + 36j^2$
- h)  $9c^2h^2k^2 + 24cekhf + 16e^2f^2$
- i)  $16t^2 + 8tim + i^2m^2$
- j)  $64r^2k^2 - 80kmr + 25m^2$
- k)  $4t^2x^2 - 4f^2y^2$
- l)  $49n^2 - 42neu + 9e^2u^2$
- m)  $16e^2c^2 + 24ecz + 9z^2$
- n)  $25z^2d^2 + 40zdz + 16j^2$

### III. Finden Sie die quadratische Ergänzung :

- a)  $36c^2d^2 + 60cmdn$
- b)  $81u^2s^2 + 90usm$
- c)  $r^2t^2 + 12rtb$
- d)  $16m^2 + 16mz$
- e)  $x^2 - 16xgo$
- f)  $9u^2 + 6ums$
- g)  $9u^2t^2 + 24tuvn$
- h)  $b^2 + 4bkv$
- i)  $9d^2 - 42dpb$
- j)  $81x^2w^2 + 54wax$
- k)  $49p^2k^2 - 70ktps$
- l)  $49n^2 - 70nol$
- m)  $16i^2j^2 - 8iejf$
- n)  $16u^2 + 40ufy$

### Lösungen auf der Rückseite/ der nächsten Seite

## Binome 3

### Lösungen

#### I. Rechnen Sie's aus

a)	$(4,5za + 4,6t)(4,5za - 4,6t)$	=	$20,25z^2a^2 - 21,16t^2$
b)	$(4v + 1,3jk)^2$	=	$16v^2 + 10,4vjk + 1,69j^2k^2$
c)	$(2,4my + 2,9nk)^2$	=	$5,76y^2m^2 + 13,92ykmn + 8,41k^2n^2$
d)	$(5,4iv + 4q)^2$	=	$29,16i^2v^2 + 43,2iqv + 16q^2$
e)	$(6,7et - 1,7so)^2$	=	$44,89e^2t^2 - 22,78eots + 2,89s^2o^2$
f)	$(8,6jh + 4,1su)(8,6jh - 4,1su)$	=	$73,96j^2h^2 - 16,81s^2u^2$
g)	$(4,1pk + 6,3h)^2$	=	$16,81k^2p^2 + 51,66phk + 39,69h^2$
h)	$(7,8yq + 3,4mb)^2$	=	$60,84y^2q^2 + 53,04ymqb + 11,56m^2b^2$
i)	$(1,7c + wr)^2$	=	$2,89c^2 + 3,4cwr + w^2r^2$
j)	$(5,9juh + 3,4r)^2$	=	$34,81j^2u^2h^2 + 40,12jruh + 11,56r^2$
k)	$(6,3w + 7,6ga)^2$	=	$39,69w^2 + 95,76wga + 57,76g^2a^2$
l)	$(3,2np + 0,7mq)^2$	=	$10,24n^2p^2 + 4,48nmpq + 0,49m^2q^2$
m)	$(3cd + 5l)^2$	=	$9c^2d^2 + 30cld + 25l^2$
n)	$(7,2kl + 4,8w)(7,2kl - 4,8w)$	=	$51,84k^2l^2 - 23,04w^2$

#### II. Rekonstruieren Sie die binomische Formel:

a)	$(4ul - 4p)^2$	=	$16u^2l^2 - 32ulp + 16p^2$
b)	$(4ku - 2za)^2$	=	$16k^2u^2 - 16kzua + 4z^2a^2$
c)	$(5e + 4vw)(5e - 4vw)$	=	$25e^2 - 16v^2w^2$
d)	$(7hg + 2i)^2$	=	$49h^2g^2 + 28ghi + 4i^2$
e)	$(8um + 5v)(8um - 5v)$	=	$64u^2m^2 - 25v^2$
f)	$(8ds + 8vr)(8ds - 8vr)$	=	$64s^2d^2 - 64v^2r^2$
g)	$(zc + 6j)^2$	=	$z^2c^2 + 12cjz + 36j^2$
h)	$(3ckh + 4ef)^2$	=	$9c^2h^2k^2 + 24cekhf + 16e^2f^2$
i)	$(4t + mi)^2$	=	$16t^2 + 8tim + i^2m^2$
j)	$(8rk - 5m)^2$	=	$64r^2k^2 - 80krm + 25m^2$
k)	$(2tx + 2fy)(2xt - 2fy)$	=	$4t^2x^2 - 4f^2y^2$
l)	$(7n - 3eu)^2$	=	$49n^2 - 42neu + 9e^2u^2$
m)	$(4ec + 3z)^2$	=	$16e^2c^2 + 24ecz + 9z^2$
n)	$(5zd + 4j)^2$	=	$25z^2d^2 + 40zjd + 16j^2$

#### III. Finden Sie die quadratische Ergänzung :

a)	$36c^2d^2 + 60cmdn$	$+ 25m^2n^2$	=	$(6cd + 5mn)^2$
b)	$81u^2s^2 + 90usm$	$+ 25m^2$	=	$(9us + 5m)^2$
c)	$r^2t^2 + 12rtb$	$+ 36b^2$	=	$(rt + 6b)^2$
d)	$16m^2 + 16mz$	$+ 4z^2$	=	$(4m + 2z)^2$
e)	$x^2 - 16xgo$	$+ 64g^2o^2$	=	$(x - 8go)^2$
f)	$9u^2 + 6ums$	$+ m^2s^2$	=	$(3u + ms)^2$
g)	$9u^2t^2 + 24tuvn$	$+ 16v^2n^2$	=	$(3ut + 4vn)^2$
h)	$b^2 + 4bkv$	$+ 4k^2v^2$	=	$(b + 2kv)^2$
i)	$9d^2 - 42dpb$	$+ 49b^2p^2$	=	$(3d - 7bp)^2$
j)	$81x^2w^2 + 54wx$	$+ 9a^2$	=	$(9xw + 3a)^2$
k)	$49p^2k^2 - 70ktps$	$+ 25t^2s^2$	=	$(7pk - 5st)^2$
l)	$49n^2 - 70nol$	$+ 25o^2l^2$	=	$(7n - 5ol)^2$
m)	$16i^2j^2 - 8iejf$	$+ e^2f^2$	=	$(4ij - ef)^2$
n)	$16u^2 + 40ufy$	$+ 25f^2y^2$	=	$(4u + 5fy)^2$