

Lösungen binomische Formeln

1. Aufgabe

a) $(3 - a)(4 + b) = 12 + 3b - 4a - ab$

b) $(2b + 5)(c + 1) = 2bc + 2b + 5c + 5$

c) $(-3d + 2a)(2b - 6c) = -6bd + 18cd + 4ab - 12ac$

d) $(x + 3)(x - 2) = x^2 - 2x + 3x - 6 = x^2 + x - 6$

e) $(4x + 3)(2x - 2) = 8x^2 - 8x + 6x - 6 = 8x^2 - 2x - 6$

f) $(-1 + b)(-2 + b) = 2 - b - 2b + b^2 = 2 - 3b + b^2$

g) $(7x + 3y)(7x - 4y) = 49x^2 - 28xy + 21xy - 12y^2 = 49x^2 - 7xy - 12y^2$

2. Aufgabe

a) $(a - 3)^2 = a^2 - 6a + 9$

b) $(x + 4)^2 = x^2 + 8x + 16$

c) $(2 - b)(2 + b) = 4 - b^2$

d) $(-3x + 6y)^2 = 9x^2 - 36xy + 36y^2$

e) $(4d + 2m)(4d - 2m) = 16d^2 - 4m^2$

f) $(6g + 2v)^2 = 36g^2 + 24gv + 4v^2$

g) $(-8a - f)^2 = 64a^2 + 16af + f^2$

h) $(-1 - 3x)(-1 + 3x) = 1 - 9x^2$

3. Aufgabe

a) $4(x - 2)^2 = 4(x^2 - 4x + 4) = 4x^2 - 16x + 16$

b) $2(x + 7)(x - 7) = 2(x^2 - 49) = 2x^2 - 98$

c) $-3(y + 1)^2 = -3(y^2 + 2y + 1) = -3y^2 - 6y - 3$

d) $-5(a + 3)(a - 3) = -5(a^2 - 9) = -5a^2 + 45$

e) $0,5(8b + 6c)^2 = 0,5(64b^2 + 96bc + 36c^2) = 32b^2 + 48bc + 18c^2$

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