Binomische Formeln

1. Binomische Formel: (a + b)² = (a + b) · (a + b) = a² + 2ab + b²
(x + 2)² =
(m + 5)² =
(3x + 3)² =
(4 + m)² =
(2a + b)² =
(3m + 2n)² =
(6a + 3b)² =
(a² + 2b)² =
(3m + 2mn)²
(a² + b²)² =

2. Binomische Formel: (a - b)² = (a - b) · (a - b) = a² - 2ab + b²
(a - 4)² =
(x - 1)² =
(2x - 2)² =
(4 - m)² =
(2r - s)² =
(4x − 2y)² =
(3a - 6b)² =
(ax − bx)² =
(0,5m − 0,5n)² =
(a³ − b³)² =

3. Binomische Formel: (a + b) · (a - b) = a² - b²
(a + 4) · (a − 4) =
(3 + b) · (3 − b) =
(2a + x) · (2a − x) =
(9 + 4m) · (9 − 4m) =
(3x + 5y) · (3x − 5y) =
(6m + 5n) · (6m − 5n) =
(0,4x + 0,3y) · (0,4x − 0,3y)
(ax + bx) · (ax − bx) =
(m² + 1) · (m² − 1) =
(12 + 10k) · (12 − 10k

Lösung - Binomische Formeln

1. Binomische Formel: $(a+b)^2 = (a+b) \cdot (a+b) = a^2 + 2ab + b^2$

$(x+2)^2 = $ **$x^2 + 4x + 4$**

$(m+5)^2 = $ **$m^2 + 10m + 25$**

$(3x+3)^2 = $ **$9x^2 + 18x + 9$**

$(4+m)^2 = $ **$16 + 8m + m^2$**

$(2a+b)^2 = $ **$4a^2 + 4ab + b^2$**

$(3m+2n)^2 = $ **$9m^2 + 12mn + 4n^2$**

$(6a+3b)^2 = $ **$36a^2 + 36ab + 9b^2$**

$(a^2+2b)^2 = $ **$a^4 + 4a^2b + 4b^2$**

$(3m+2mn)^2 = $ **$9m^2 + 12m^2n + 4m^2n^2$**

$(a^2+b^2)^2 = $ **$a^4 + 2a^2b^2 + b^4$**

2. Binomische Formel: $(a-b)^2 = (a-b) \cdot (a-b) = a^2 - 2ab + b^2$

$(a-4)^2 = $ **$a^2 - 8a + 16$**

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

$(2x-2)^2 = $ **$4x^2 - 8x + 4$**

$(4-m)^2 = $ **$16 - 8m + m^2$**

$(2r-s)^2 = $ **$4r^2 - 4rs + s^2$**

$(4x-2y)^2 = $ **$16x^2 - 16xy + 4y^2$**

$(3a-6b)^2 = $ **$9a^2 - 36ab + 36b^2$**

$(ax-bx)^2 = $ **$a^2x^2 - 2abx^2 + b^2x^2$**

$(0{,}5m-0{,}5n)^2 = 0$**$,25m^2 - 0,5mn + 0,25n^2$**

$(a^3-b^3)^2 = $ **$a^6 - 2a^3b^3 + b^6$**

3. Binomische Formel: $(a+b) \cdot (a-b) = a^2 - b^2$

$(a+4) \cdot (a-4) = $ **$a^2 - 16$**

$(3+b) \cdot (3-b) = $ **$9 - b^2$**

$(2a+x) \cdot (2a-x) = $ **$4a^2 - x^2$**

$(9+4m) \cdot (9-4m) = $ **$81 - 16m^2$**

$(3x+5y) \cdot (3x-5y) = $ **$9x^2 - 25y^2$**

$(6m+5n) \cdot (6m-5n) = $ **$36m^2 - 25n^2$**

$(0{,}4x+0{,}3y) \cdot (0{,}4x-0{,}3y) = $ **$0,16x^2 - 0,09y^2$**

$(ax+bx) \cdot (ax-bx) = $ **$a^2x^2 - b^2x^2$**

$(m^2+1) \cdot (m^2-1) = $ **$m^4 - 1$**

$(12+10k) \cdot (12-10k) = $ **$144 - 100k$**