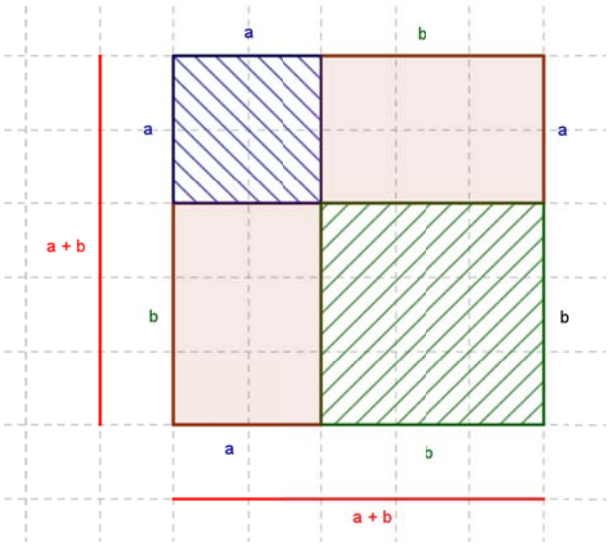
Geometrische Visualisierung der binomischen Formeln

1. Binomische Formel

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

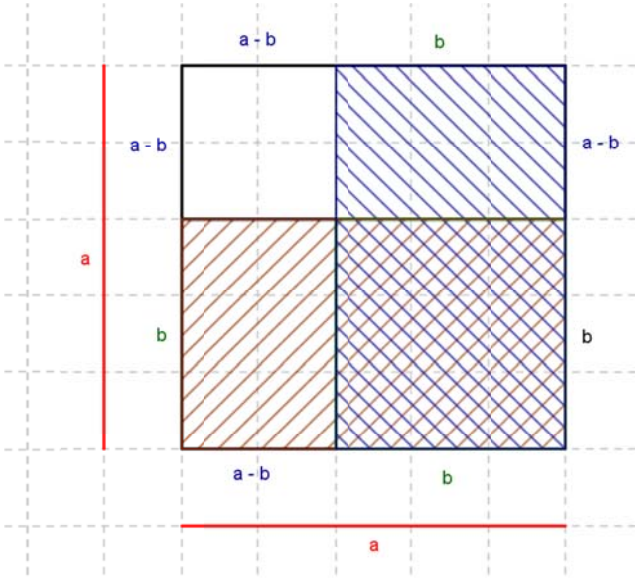
Visualisierung:



2. Binomische Formel

$(a - b)^2 = a^2 - 2ab + b^2$

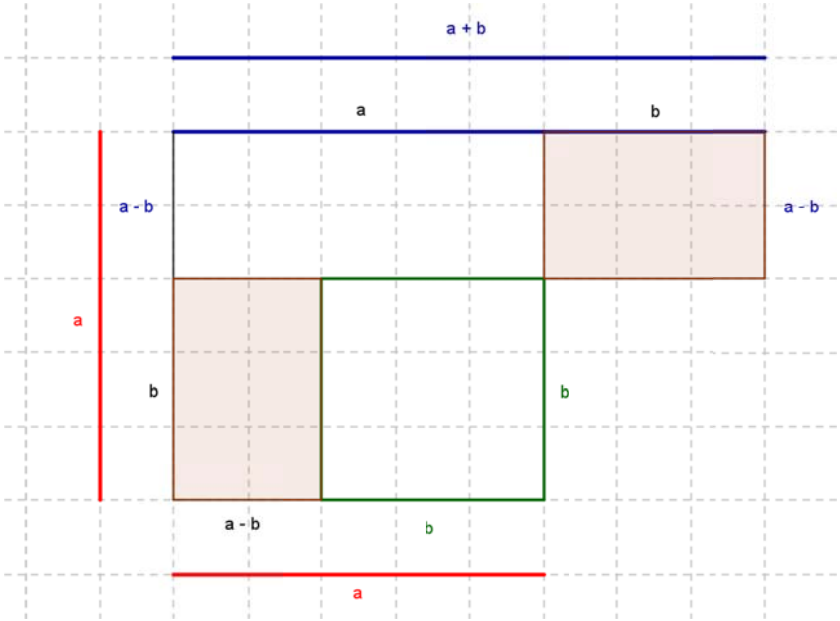
Visualisierung:



3. Binomische Formel

$(a - b)(a + b) = a^2 - b^2$

Visualisierung:



<u>„Höhere“ binomische Formeln</u>

Binomische Formel 3. Grades: $(a+b)^3 = a^3 + 3a^2b + 3ab^2 + b^3$

Binomische Formel 4. Grades: $(a+b)^4 = a^4 + 4a^3b + 6a^2b^2 + 4ab^3 + b^4$ …

<u>Pascalsches Dreieck</u>

1
1 1
1 2 1
1 3 3 1
1 4 6 4 1
1 5 10 10 5 1
1 6 15 20 15 6 1
1 7 21 35 35 21 7 1
1 8 28 56 70 56 28 8 1
1 9 36 84 126 126 84 36 9 1
1 10 45 120 210 252 210 120 45 10 1
1 11 55 165 330 462 462 330 165 55 11 1