



Binomische Formeln

1. Binomische Formel:

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

x = a

5 = b

$$\text{z.B.: } (x + 5)^2 = x^2 + 2 \cdot x \cdot 5 + 5^2$$

$$= x^2 + 10x + 25$$



2. Binomische Formel:

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

$x = a$ $5 = b$

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



3. Binomische Formel:

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

$x = a$ $5 = b$

$$(x + 5) \cdot (x - 5) = x^2 - 5^2$$

The diagram illustrates the substitution of x for a and 5 for b in the binomial formula. Colored arrows show the mapping: pink arrows from x to a and from 5 to b ; red arrows from $+$ to $-$; and green arrows from a to a^2 and from b to b^2 . A green curved arrow also indicates the substitution of 5 for b .