

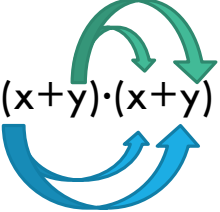


# **BINOMISCHE FORMELN**

[www.matheportal.wordpress.com](http://www.matheportal.wordpress.com)



# WAS SIND DIE BINOMISCHEN FORMELN?

$$(x+y)^2 = (x+y) \cdot (x+y)$$


$$\begin{aligned} &= x^2 + xy + yx + y^2 \\ &= x^2 + xy + xy + y^2 \\ &= x^2 + 2xy + y^2 \end{aligned}$$

$$\begin{aligned} (x-y)^2 &= (x-y) \cdot (x-y) \\ &= x^2 - xy - yx + y^2 \\ &= x^2 - 2xy + y^2 \end{aligned}$$

$$\begin{aligned} (x+y) \cdot (x-y) &= x^2 - xy + xy - y^2 \\ &= x^2 - y^2 \end{aligned}$$

1. binomische Formel:  $(x+y)^2 = x^2 + 2xy + y^2$

2. binomische Formel:  $(x-y)^2 = x^2 - 2xy + y^2$

3. binomische Formel:  $(x+y) \cdot (x-y) = x^2 - y^2$



# ANWENDUNG

$$\begin{aligned} & (a+3)^2 \\ &= a^2 + 2 \cdot a \cdot 3 + 3^2 \\ &= a^2 + 6a + 9 \end{aligned}$$

$$\begin{aligned} & (x-7)^2 \\ &= x^2 - 2 \cdot x \cdot 7 + 7^2 \\ &= x^2 - 14x + 49 \end{aligned}$$

$$\begin{aligned} & (2x+4) \cdot (2x-4) \\ &= (2x)^2 - 4^2 \\ &= 4x^2 - 16 \end{aligned}$$

1. binomische Formel:  $(x+y)^2 = x^2 + 2xy + y^2$
2. binomische Formel:  $(x-y)^2 = x^2 - 2xy + y^2$
3. binomische Formel:  $(x+y) \cdot (x-y) = x^2 - y^2$

