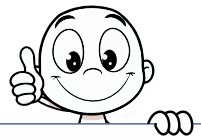
Binomische Formeln



Drei binomische Formeln

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

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

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

Faktorisiere und bilde das Binom! (Wende die binomischen Formeln also rückwärts an.)

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

$25 - 10a + a^2$

$y^2 + 6y + 9$

$4 + 4y + y^2$

$a^2 - 14a + 49$

$49 - 14z + z^2$

$36 + 12z + z^2$

$x^2 - 12x + 36$

$16 - 8b + b^2$

$4 - x^2$

$c^2 + 10c + 25$

$9 + 6a + a^2$

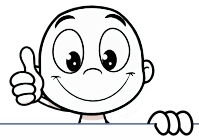
$49 - 14d + d^2$

$y^2 - 1$

$x^2 - 64$

$100 - 20z + z^2$

Binomische Formeln



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Faktorisiere und bilde das Binom! (Wende die binomischen Formeln also rückwärts an.)

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

$9x^2 + 30x + 25$

$49x^2 + 42x + 9$

$49a^2 - 4$

$16a^2 - 16a + 4$

$25y^2 - 64$

$9y^2 - 18y + 9$

$9d^2 + 54d + 81$

$9x^2 + 48x + 64$

$81x^2 - 64$

$9c^2 + 42c + 49$

$36a^2 + 96a + 64$

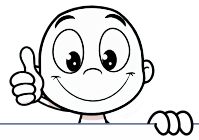
$64b^2 - 48b + 9$

$9x^2 - 12 + 4$

$9y^2 - 25$

$25y^2 - 49$

Binomische Formeln



Drei binomische Formeln

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

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Faktorisiere und bilde das Binom! (Wende die binomischen Formeln also rückwärts an.)

$4x^2 - 8xy + 4y^2 = (2x - 2y)^2$

$36x^2 - 16y^2$

$9a^2 - 30ab + 25b^2$

$81a^2 + 36ab + 4b^2$

$4x^2 - 36y^2$

$64z^2 - 112zy + 49y^2$

$36a^2 - 25b^2$

$49x^2 - 36y^2$

$81x^2 + 90xy + 25y^2$

$16c^2 - 24cd + 9d^2$

$36c^2 - 72cd + 36d^2$

$36x^2 - 9y^2$

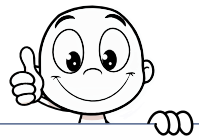
$25s^2 - 81t^2$

$81x^2 + 162xz + 81z^2$

$81x^2 - 9y^2$

$49x^2 - 9y^2$

Binomische Formeln



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

Klammere zuerst den gemeinsamen Faktor aus und bilde dann das Binom!

$5x^2 + 20xy + 20y^2$ $= 5 \cdot (x^2 + 4xy + 4y^2) = 5 \cdot (x + 2y)^2$

$36x^2y + 48xy + 16y$

$49a^2b - 28ab + 4b$

$3x^2 + 18x + 27$

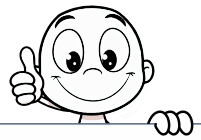
$16xy^2 - 81x$

$18x^2 - 60x + 50$

$64a^2b + 80ab + 25b$

$4x^2z - 16z$

Binomische Formeln



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Faktorisiere und bilde das Binom! (Wende die binomischen Formeln also rückwärts an.)

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

$25 - 10a + a^2$ **$= (5 - a)^2$**

$y^2 + 6y + 9$ **$= (y + 3)^2$**

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

$a^2 - 14a + 49$ **$= (a - 7)^2$**

$49 - 14z + z^2$ **$= (7 - z)^2$**

$36 + 12z + z^2$ **$= (6 + z)^2$**

$x^2 - 12x + 36$ **$= (x - 6)^2$**

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

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

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

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

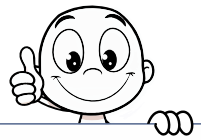
$49 - 14d + d^2$ **$= (7 - d)^2$**

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

$x^2 - 64$ **$= (x + 8) \cdot (x - 8)$**

$100 - 20z + z^2$ **$= (10 - z)^2$**

Binomische Formeln



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

$9x^2 + 30x + 25 = (3x + 5)^2$

$49x^2 + 42x + 9 = (7x + 3)^2$

$49a^2 - 4 = (7a + 2) \cdot (7a - 2)$

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

$25y^2 - 64 = (5y + 8) \cdot (5y - 8)$

$9y^2 - 18y + 9 = (3y - 3)^2$

$9d^2 + 54d + 81 = (3d + 9)^2$

$9x^2 + 48x + 64 = (15x + 8)^2$

$81x^2 - 64 = (9x + 8) \cdot (9x - 8)$

$9c^2 + 42c + 49 = (3c + 7)^2$

$36a^2 + 96a + 64 = (6a + 8)^2$

$64b^2 - 48b + 9 = (8b - 3)^2$

$9x^2 - 12 + 4 = (3x - 2)^2$

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

$25y^2 - 49 = (5y + 7) \cdot (5y - 7)$

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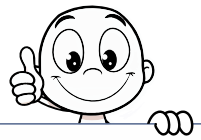

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$4x^2 - 8xy + 4y^2$ **$= (2x - 2y)^2$**

$36x^2 - 16y^2$ **$= (6x + 4y)(6x - 4y)$**

$9a^2 - 30ab + 25b^2$ **$= (3a - 5b)^2$**

$81a^2 + 36ab + 4b^2$ **$= (9a + 2b)^2$**

$4x^2 - 36y^2$ **$= (2x + 6y)(2x - 6y)$**

$64z^2 - 112zy + 49y^2$ **$= (8z - 7y)^2$**

$36a^2 - 25b^2$ **$= (6a - 5b)(6a + 5b)$**

$49x^2 - 36y^2$ **$= (7x + 6y)(7x - 6y)$**

$81x^2 + 90xy + 25y^2$ **$= (9x + 5y)^2$**

$16c^2 - 24cd + 9d^2$ **$= (4c - 3d)^2$**

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

$25s^2 - 81t^2$ **$= (5s + 9t)(5s - 9t)$**

$81x^2 + 162xz + 81z^2$ **$= (9x + 9z)^2$**

$81x^2 - 9y^2$ **$= (9x + 3y)(9x - 3y)$**

$49x^2 - 9y^2$ **$= (7x + 3y)(7x - 3y)$**

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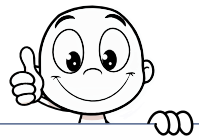

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$5x^2 + 20xy + 20y^2$ **$= 5 \cdot (x^2 + 4xy + 4y^2) = 5 \cdot (x + 2y)^2$**

$36x^2y + 48xy + 16y$ **$= y \cdot (36x^2 + 48x + 16) = y \cdot (6x + 4)^2$**

$49a^2b - 28ab + 4b$ **$= b \cdot (49a^2 - 28a + 4) = b \cdot (7a - 2)^2$**

$3x^2 + 18x + 27$ **$= 3 \cdot (x^2 + 6x + 9) = 3 \cdot (x + 3)^2$**

$16xy^2 - 81x$ **$= x \cdot (16y^2 - 81) = x \cdot (4y + 9) \cdot (4y - 9)$**

$18x^2 - 60x + 50$ **$= 2 \cdot (9x^2 - 30x + 25) = 2 \cdot (3x - 5)^2$**

$64a^2b + 80ab + 25b$ **$= b \cdot (64a^2 + 80a + 25) = b \cdot (8a + 5)^2$**

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