








# Gleichungen mit binomischen Formeln 1

Lösungsblatt

$(x + 3)^2 = x \cdot (x + 7)$ $x^2 + 6x + 9 = x^2 + 7x \quad / -x^2$ $6x + 9 = 7x \quad / -6x$ $9 = x$ 	$(x - 3)^2 = (x - 3) \cdot (x + 5)$ $x^2 - 6x + 9 = x^2 + 5x - 3x - 15 \quad / -x^2$ $-6x + 9 = 2x - 15 \quad / +6x$ $9 = 8x - 15 \quad / +15$ $24 = 8x \quad / : 3$ $3 = x$ 
$(x + 2) \cdot (x + 6) = (x + 2)^2$ $x^2 + 6x + 2x + 12 = x^2 + 4x + 4 \quad / -x^2$ $8x + 12 = 4x + 4 \quad / -4x$ $4x + 12 = 4 \quad / -12$ $4x = -8 \quad / : 4$ $x = -2$ 	$(x - 4)^2 = (x - 4) \cdot (x + 1)$ $x^2 - 8x + 16 = x^2 + x - 3x - 4 \quad / -x^2$ $-8x + 16 = -3x - 4 \quad / +8x$ $16 = 5x - 4 \quad / +4$ $20 = 5x \quad / : 5$ $4 = x$ 
$(x - 5)^2 = (x + 1)^2 - 36$ $x^2 - 10x + 25 = x^2 + 2x + 1 - 36 \quad / -x^2$ $-10x + 25 = 2x - 35 \quad / +10x$ $25 = 12x - 35 \quad / +35$ $60 = 12x \quad / : 12$ $5 = x$ 	$(x + 4) \cdot (x - 4) = (x - 2)^2 - 12$ $x^2 - 4x + 4x - 16 = x^2 - 4x + 4 - 12 \quad / -x^2$ $-16 = -4x - 8 \quad / +8$ $-8 = -4x \quad / : (-4)$ $2 = x$ 
$(x + 5) \cdot (x - 1) = (x + 3)^2 - 10$ $x^2 - x + 5x - 5 = x^2 + 6x + 9 - 10 \quad / -x^2$ $4x - 5 = 6x - 1 \quad / -4x$ $-5 = 2x - 1 \quad / +1$ $-4 = 2x \quad / : 2$ $-2 = x$ 	$(x + 3)^2 - (x - 2)^2 = 25$ $x^2 + 6x + 9 - (x^2 - 4x + 4) = 25$ $x^2 + 6x + 9 - x^2 + 4x - 4 = 25$ $10x + 5 = 25 \quad / -5$ $10x = 20 \quad / : 10$ $x = 2$ 