

## AB – Termumformungen - Lösungen

5. a)  $(2x - 3y) \cdot (0,5x - 2y) + 4x(1,5y - 0,25x) =$   
 $x^2 - 4xy - 1,5xy + 6y^2 + 6xy - x^2 = 0,5xy + 6y^2$
- b)  $(2,5a - 3b) \cdot (2b - 5a) - 3b(6a - 2b) + 0,5a(25a + 2b) =$   
 $5ab - 12,5a^2 - 6b^2 + 15ab - 18ab + 6b^2 + 12,5a^2 + ab = 3ab$
- c)  $(0,5x - y) \cdot (4y - 6x) + (2x - 2y)(1,5x - 2y) =$   
 $2xy - 3x^2 - 4y^2 + 6xy + 3x^2 - 4xy - 3xy + 4y^2 = xy$
- d)  $(2,5a + 3b) \cdot (4b - a) - (2b - a) \cdot (6b + 5a) - 0,5a(6b - a) =$   
 $10ab - 2,5a^2 + 12b^2 - 3ab - [12b^2 + 10ab - 6ab - 5a^2] - 3ab + 0,5a^2 =$   
 $10ab - 2,5a^2 + 12b^2 - 3ab - 12b^2 - 10ab + 6ab + 5a^2 - 3ab + 0,5a^2 = 3a^2$
- e)  $(a - 3b)^2 + 6b(a - 1,5b) = a^2 - 3ab - 3ab + 9b^2 + 6ab - 9b^2 = a^2$
- f)  $(2x - 3y)^2 - (3x - 2y)^2 = 4x^2 - 6xy - 6xy + 9y^2 - [9x^2 - 6xy - 6xy + 4y^2] =$   
 $4x^2 - 6xy - 6xy + 9y^2 - 9x^2 + 6xy + 6xy - 4y^2 = -5x^2 + 5y^2$
- g)  $(x - 5y)^2 - 2(x - y)^2 + 2x \cdot (0,5x + 3y) - 2 \cdot (3y)^2 =$   
 $x^2 - 5xy - 5xy + 25y^2 - 2 \cdot [x^2 - xy - xy + y^2] + x^2 + 6xy - 2 \cdot 9y^2 =$   
 $x^2 - 5xy - 5xy + 25y^2 - 2x^2 + 2xy + 2xy - 2y^2 + x^2 + 6xy - 18y^2 = 5y^2$