

Aufgabe 1:

- | | | |
|--------------------|-------------------|-------------------------|
| a) $9 + (+6) = 15$ | c) $7 - (1) = 6$ | e) $-(9) + (-1) = -10$ |
| b) $2 + (-6) = -4$ | d) $5 - (-4) = 9$ | f) $-(-6) - (+10) = -4$ |

Aufgabe 2:

- | | | |
|--------------------|------------------------|----------------------------|
| a) $2(3 + 3) = 12$ | c) $4(-3 - 2) = -20$ | e) $(-3 + 1)(-1 + 3) = -4$ |
| b) $3(3 - 4) = -3$ | d) $(-3)(-3 - 4) = 21$ | f) $(-4 + 4)(-4 - 3) = 0$ |

Aufgabe 3:

- | | |
|--|--|
| a) $4a + 9a = 13a$ | f) $a^2 - ab - ab + b^2 = a^2 - 2ab + b^2$ |
| b) $8c - 4c = 4c$ | g) $a^2 - ab + ab - b^2 = a^2 - b^2$ |
| c) $-3x - 12x = -15x$ | h) $9a^2 + 4a \cdot b - 4a \cdot b + 4b^2 = 9a^2 + 4b^2$ |
| d) $-14t + 3c - 16t = 3c - 30t$ | i) $2a^2 + 1a \cdot b - 1a \cdot b + 1b^2 = 2a^2 + b^2$ |
| e) $a^2 + ab + ab + b^2 = a^2 + 2ab + b^2$ | j) $7a^2 + 8a \cdot b - 4a \cdot b + 4b^2 = 7a^2 + 4ab + 4b^2$ |

Aufgabe 4:

- | | | |
|-----------------------------|-----------------------------------|-------------------------------------|
| a) $7(10a + 8) = 70a + 56$ | c) $-2(-4 - 6t) = 12t + 8$ | e) $(5y - 6x) \cdot 6 = -36x + 30y$ |
| b) $5(1y - 9x) = -45x + 5y$ | d) $(4a + 1) \cdot 10 = 40a + 10$ | f) $(-3 - 1t)(-3) = 3t + 9$ |

Aufgabe 5:

- | | | |
|---|--|---|
| a) $(3x + 3)(8x + 3) = 24x^2 + 33x + 9$ | c) $(-10x + 7)(6x - 9) = -60x^2 + 132x - 63$ | e) $-(2s - 3)(-1t - 7) = 2st + 14s - 3t - 21$ |
| b) $(10a - 7)(4a - 2) = 40a^2 - 48a + 14$ | d) $(-3y + 6)(-4y + 3) = 12y^2 - 33y + 18$ | f) $(-7x - 3)(9y + 4) = -63xy - 28x - 27y - 12$ |

Aufgabe 6:

- | | | |
|---|---|--|
| a) $(a + b)^2 = a^2 + 2ab + b^2$ | e) $(7r - 7s)^2 = 49r^2 - 98rs + 49s^2$ | i) $(9v + 8t)(9v - 8t) = -64t^2 + 81v^2$ |
| b) $(a - b)^2 = a^2 - 2ab + b^2$ | f) $(3v + 8t)(3v - 8t) = -64t^2 + 9v^2$ | j) $(7x + 2y)^2 = 49x^2 + 28xy + 4y^2$ |
| c) $(a + b)(a - b) = a^2 - b^2$ | g) $(4x + 8y)^2 = 16x^2 + 64xy + 64y^2$ | k) $(2r - 3s)^2 = 4r^2 - 12rs + 9s^2$ |
| d) $(5x + 6y)^2 = 25x^2 + 60xy + 36y^2$ | h) $(4r - 9s)^2 = 16r^2 - 72rs + 81s^2$ | l) $(5v + 9t)(5v - 9t) = -81t^2 + 25v^2$ |