

1. Löse nach diesem Schema die Klammern auf und vereinfache die Terme so weit wie möglich.

$$\begin{aligned} \text{a)} \quad & 5(6a-4b) + 6(2b-a) - 3(5a-9b) = \\ & = 30a - 20b + 12b - 6a - 15a + 27b = \\ & = 9a + 19b \end{aligned}$$

$$\begin{aligned} \text{b)} \quad & a(x-y) + a(-x-y) = \\ & = ax - ay - ax - ay = \\ & = -2ay \end{aligned}$$

$$\begin{aligned} \text{c)} \quad & (x-3y+z) \cdot 4x = \\ & = 4x^2 - 12xy + 4xz \end{aligned}$$

$$\begin{aligned} \text{d)} \quad & (9u-4v-1) \cdot 2v = \\ & = 18uv - 8v^2 - 2v \end{aligned}$$

$$\begin{aligned} \text{e)} \quad & 2(6p+7q) - 3(3p+4q) = \\ & = 12p + 14q - 9p - 12q = \\ & = 3p - 2q \end{aligned}$$

$$\begin{aligned} \text{f)} \quad & 1,2(0,5p-0,7q) - 1,5(0,6p+0,5q) + 0,8(1,1p-q) = \\ & = 0,6p - 0,84q - 0,9p - 0,75q + 0,88p - 0,8q = \\ & = 0,58p - 2,39q \end{aligned}$$

2. Löse nach diesem Schema die Klammern auf. Vereinfache anschließend so weit wie möglich.

$$\begin{aligned} \text{a)} \quad & (1-x)(1+x) = \\ & = 1 + x - x - x^2 \\ & = 1 - x^2 \end{aligned}$$

$$\begin{aligned} \text{b)} \quad & (1-x)(1-x) = \\ & = 1 - x - x + x^2 \\ & = 1 - 2x + x^2 \end{aligned}$$

$$\begin{aligned} \text{c)} \quad & (4a+9c)(2a-3) = \\ & = 8a^2 - 12a + 18ac - 27a \\ & = 8a^2 - 39a + 18ac \end{aligned}$$

$$\begin{aligned} \text{d)} \quad & (4a+9c)(2a-3) = \\ & = 8a^2 - 12a + 18ac - 27a \\ & = 8a^2 - 39a + 18ac \end{aligned}$$

$$\begin{aligned} \text{e)} \quad & (2x^2+1,5y)(3x-2y) = \\ & = 6x^3 - 4x^2y + 4,5xy - 3y^2 \end{aligned}$$

$$\begin{aligned} \text{f)} \quad & (a+2b-3c)(a-b) = \\ & = a^2 - ab + 2ab - 2b^2 - 3ac + 3bc \\ & = a^2 + ab - 2b^2 - 3ac + 3bc \end{aligned}$$

$$\begin{aligned} \text{g)} \quad & (5x+7y)(1,5x-0,5y) = \\ & = 7,5x^2 - 2,5xy + 10,5xy - 3,5y^2 = \\ & = 7,5x^2 + 8xy - 3,5y^2 \end{aligned}$$

$$\begin{aligned} \text{h)} \quad & (a^2+a-3)(a-2) = \\ & = a^3 - 2a^2 + a^2 - 2a - 3a + 6 = \\ & = a^3 - a^2 - 5a + 6 \end{aligned}$$

$$\begin{aligned} \text{i)} \quad & (a^2+a-3)(a^2-2a+1) = \\ & = a^4 - 2a^3 + a^2 + a^3 - 2a^2 + a - 3a^2 + 6a - 3 = \\ & = a^4 - a^3 - 4a^2 + 6a - 3 \end{aligned}$$

Bei Druckfehlern bitte Rückmeldung an schule@christoph-gnandt.de