

2 Operationen 1. Stufe

2.9 Übungen Frommenwiler

$$\begin{aligned}
 19. \quad a) \quad & a - [a - \{(-b - a) + 2a\}] = \\
 & a - [a - \{-b - a + 2a\}] = \\
 & a - [a + b + a - 2a] = \\
 & a - a - b - a + 2a = \underline{\underline{a - b}}
 \end{aligned}$$

$$\begin{aligned}
 b) \quad & 10x - [-\{-(x + y) - (x - y)\} - x] = \\
 & 10x - [-\{-x - y - x + y\} - x] = \\
 & 10x - [x + y + x - y - x] = \\
 & 10x - x - y - x + y + x = \underline{\underline{9x}}
 \end{aligned}$$

$$\begin{aligned}
 c) \quad & 2a - [3b - (2c + 4d) - (3a + \{2b - c\})] = \\
 & 2a - [3b - 2c - 4d - (3a + 2b - c)] = \\
 & 2a - [3b - 2c - 4d - 3a - 2b + c] = \\
 & 2a - 3b + 2c + 4d + 3a + 2b - c = \underline{\underline{5a - b + c + 4d}}
 \end{aligned}$$

$$\begin{aligned}
 d) \quad & 3m - 4n - [-\{-(2m + n) - (m - 2n)\} + n] = \\
 & 3m - 4n - [-\{-2m - n - m + 2n\} + n] = \\
 & 3m - 4n - [2m + n + m - 2n + n] = \\
 & 3m - 4n - 2m - n - m + 2n - n = \underline{\underline{-4n}}
 \end{aligned}$$

$$\begin{aligned}
 e) \quad & -2a^3 - [4a^2 - \{(-a^3 + 6a^2) - 3a^3 + 10a^2\} - 3a^3] = \\
 & -2a^3 - [4a^2 - \{-a^3 + 6a^2 - 3a^3 + 10a^2\} - 3a^3] = \\
 & -2a^3 - [4a^2 + a^3 - 6a^2 + 3a^3 - 10a^2 - 3a^3] = \\
 & -2a^3 - 4a^2 - a^3 + 6a^2 - 3a^3 + 10a^2 + 3a^3 = \underline{\underline{-3a^3 + 12a^2}}
 \end{aligned}$$

$$\begin{aligned}
 \text{f) } & b^3 - \left[-b^2 + 2 - \{(-3b^3 + 1 + b^2) + 1\} \right] = \\
 & b^3 - \left[-b^2 + 2 - \{-3b^3 + 1 + b^2 + 1\} \right] = \\
 & b^3 - \left[-b^2 + 2 + 3b^3 - 1 - b^2 - 1 \right] = \\
 & b^3 + b^2 - 2 - 3b^3 + 1 + b^2 + 1 = \underline{\underline{-2b^3 + 2b^2}}
 \end{aligned}$$

$$\text{20. a) } \overset{\substack{\text{a muss} \\ \text{wegfallen}}}{\underline{\underline{(a+b) - (a-b)}}} = 2b$$

$$\text{b) } \overset{\substack{\text{s muss} \\ \text{wegfallen}}}{\underline{\underline{r - (s-37) + (s+37)}}} = r + 74$$

oder

$$\overset{\substack{\text{s muss} \\ \text{wegfallen}}}{\underline{\underline{r - (s+37) + (s-37)}}} = r - 74$$