

Addieren und Subtrahieren mit Variablen

Lösungsblatt

1	$[(2a + 2b) - 2 + (3b - a)] - (5 + 3a) = [2a + 2b - 2 + 3b - a] - 5 - 3a =$ $= [a + 5b - 2] - 5 - 3a = a + 5b - 2 - 5 - 3a = -2a + 5b - 7$
2	$-4c + [2d - (3d + c)] - (d + 6c) = -4c + [2d - 3d - c] - d - 6c =$ $= -4c + [-d - c] - d - 6c = -4c - d - c - d - 6c = -11c - 2d$
3	$6e + \{[4f - (3e + 2f) + 2e] - 7f\} = 6e + \{[4f - 3e - 2f + 2e] - 7f\} =$ $= 6e + \{[2f - e] - 7f\} = 6e + \{2f - e - 7f\} = 6e + \{-5f - e\} = 6e - 5f - e = 5e - 5f$
4	$[6h + (7h - 4g)] - [(3g + 3h) - 5g] = [6h + 7h - 4g] - [3g + 3h - 5g] =$ $= [13h - 4g] - [-2g + 3h] = 13h - 4g + 2g - 3h = -2g + 10h$
5	$\{2i - (j + 3) - [(3i + 2) - 8j]\} + (4j - 2) = \{2i - j - 3 - [3i + 2 - 8j]\} + 4j - 2 =$ $= \{2i - j - 3 - 3i - 2 + 8j\} + 4j - 2 = 2i - j - 3 - 3i - 2 + 8j + 4j - 2 = -i + 11j - 7$
6	$5n + \{[(2 + 5n) - m] - (8m + 2n)\} + 7 = 5n + \{[2 + 5n - m] - 8m - 2n\} + 7 =$ $= 5n + \{2 + 5n - m - 8m - 2n\} + 7 = 5n + 2 + 5n - m - 8m - 2n + 7 = -9m + 8n + 9$
7	$\{(4r - s) + [(2s + 6) - (1 + 5r + s)]\} - 9r = \{4r - s + [2s + 6 - 1 - 5r - s]\} - 9r =$ $= \{4r - s + [s + 5 - 5r]\} - 9r = \{4r - s + s + 5 - 5r\} - 9r = \{-r + 5\} - 9r = -10r + 5$
8	$(3x + 2y) - \{[(x + y) - 7z + x] + 7z\} = 3x + 2y - \{[x + y - 7z + x] + 7z\} =$ $= 3x + 2y - \{[2x + y - 7z] + 7z\} = 3x + 2y - \{2x + y\} = 3x + 2y - 2x - y = x + y$
9	$\{8a - [(4b + 3 - 2b) - (7 + 4a)]\} - 4b = \{8a - [4b + 3 - 2b - 7 - 4a]\} - 4b =$ $= \{8a - [2b - 4 - 4a]\} - 4b = \{8a - 2b + 4 + 4a\} - 4b = \{12a - 2b + 4\} - 4b = 4a - 6b + 4$
10	$-2c + [5d - (3d + 2c)] - [(d + c) + 5c] = -2c + [5d - 3d - 2c] - [d + c + 5c] =$ $= -2c + [2d - 2c] - [d + 6c] = -2c + 2d - 2c - d - 6c = -10c + d$
11	$8 + \{[(e + 2f) - 2e + (3f - e)] - (5f + 3)\} - 4 = 8 + \{[e + 2f - 2e + 3f - e] - 5f - 3\} - 4 =$ $= 8 + \{[-2e + 5f] - 5f - 3\} - 4 = 8 + \{-2e - 3\} - 4 = 8 - 2e - 3 - 4 = -2e + 1$
12	$2g + \{[(7h - 2) + (5g + 7)] - 2\} + (2h + 1) = 2g + \{[7h - 2 + 5g + 7] - 2\} + 2h + 1 =$ $= 2g + \{[7h + 3 + 5g] - 2\} + 2h + 1 = 2g + 7h + 3 + 5g + 2h + 1 = 7g + 9h + 4$

$x + y$	$-2g + 10h$	$-9m + 8n + 9$	$-i + 11j - 7$	$-11c - 2d$	$7g + 9h + 4$
$5e - 5f$	$-10c + d$	$-2a + 5b - 7$	$4a - 6b + 4$	$-2e + 1$	$-10r + 5$