

1. Berechne gleich hier auf dem Blatt!

- a)  $11 - (-9) = 11 + 9 = 20$
- b)  $47 - (+51) = 47 - 51 = -4$
- c)  $(-100) - (+99) = -100 - 99 = -199$
- d)  $| -4 | + | +5 | = 4 + 5 = 9$
- e)  $(-4) + (+5) = -4 + 5 = 1$
- f)  $| +7 | - | -9 | = 7 - 9 = -2$
- g)  $(+7) - (-9) = 7 + 9 = 16$

2. Vereinfache die Terme so weit wie möglich. Löse alle Aufgaben ins Heft und mache nie zwei Schritte gleichzeitig!

a)  $q + 3(3w + k) + 4q =$

$$q + 9w + 3k + 4q =$$

$$\underline{3k + 5q + 9w}$$

b)  $3w + 10q + 4(k + m + 2) - (7m + q) =$

$$3w + 10q + 4k + 4m + 8 - 7m - q =$$

$$\underline{4k - 3m + 9q + 3w + 8}$$

c)  $3k + 10m + 4(k + m + 2n) - (7m + n) =$

$$3k + 10m + 4k + 4m + 8n - 7m - n =$$

$$\underline{7k + 7m + 7n}$$

d)  $3m + 5(2k + m) + 3(3n + m) - n - m =$

$$3m + 10k + 5m + 9n + 3m - n - m =$$

$$\underline{10k + 10m + 8n}$$

e)  $10a + 3b + 8c - (4a + b + c) + 11b =$

$$10a + 3b + 8c - 4a - b - c + 11b =$$

$$\underline{6a + 13b + 7c}$$

f)  $11a + 10c + 15b - (7a + 2c) + (a - b + c) =$

$$11a + 10c + 15b - 7a - 2c + a - b + c =$$

$$\underline{5a + 14b + 9c}$$

g)  $3(18x + 21y) - 4(15y + 12x) + 3y - 3x =$

$$54x + 63y - 60y - 48x + 3y - 3x =$$

$$\underline{3x + 6y}$$

h)  $57b + 99c + 105d - 6(4c + 8d + 3b) =$

$$57b + 99c + 105d - 24c - 48d - 18b =$$

$$\underline{39b + 75c + 57d}$$

i)  $9(27f + 8g + 18k) - 2(16f + 8g + 11k) =$

$$243f + 72g + 162k - 32f - 16g - 22k =$$

$$\underline{211f + 56g + 140k}$$

j)  $(a + 3)(a - 5) =$

$$a^2 + 3a - 5a - 15 =$$

$$\underline{a^2 - 2a - 15}$$

k)  $(x + 4)(x + 7) - 4(x - 6) =$

$$x^2 + 4x + 7x + 28 - 4x + 24 =$$

$$\underline{x^2 + 7x + 52}$$

l)  $(a - 3)(a - 2) + (a + 1)(a - 3) =$

$$a^2 - 3a - 2a + 6 + a^2 + a - 3a - 3 =$$

$$\underline{2a^2 - 7a + 3}$$

m)  $(g + h)(g + 2h) + (g - h)(g - 3h) - g(g + 4h) =$

$$g^2 + gh + 2gh + 2h^2 + g^2 - gh - 3gh + 3h^2 - g^2 - 4gh =$$

$$\underline{g^2 - 5gh + 5h^2}$$

3.

a)  $(25x - 14) - [7x - (3x - 11)] =$

$25x - 14 - [7x - 3x + 11] =$

$25x - 14 - 7x + 3x - 11 =$

$21x - 25$

b)  $(24a + 22b) - [(12a + 2b) + (3a - 3b)] =$

$24a + 22b - [12a + 2b + 3a - 3b] =$

$24a + 22b - 12a - 2b - 3a + 3b =$

$9a + 23b$

c)  $[18x - (2x + 5)] - [5x - (2x - 9) + (3x - 6)] =$

$[18x - 2x - 5] - [5x - 2x + 9 + 3x - 6] =$

$18x - 2x - 5 - 5x + 2x - 9 - 3x + 6 =$

$10x - 8$

d)  $[(15a + 2b) - (3a - b)] - [(29a - 2b) + (3a - 2b)] =$

$[15a + 2b - 3a + b] - [29a - 2b + 3a - 2b] =$

$15a + 2b - 3a + b - 29a + 2b - 3a + 2b =$

$-20a + 7b$

e)  $(26a + 25b) - [-(2a + 3b) + (5a - 2b) - (6a - 3b)] =$

$26a + 25b - [-2a - 3b + 5a - 2b - 6a + 3b] =$

$26a + 25b + 2a + 3b - 5a + 2b + 6a - 3b =$

$29a + 27b$

f)  $(5p + 6q) + \{7p - (2p + 2q)\} =$

$5p + 6q + \{7p - 2p - 2q\} =$

$5p + 6q + 7p - 2p - 2q =$

$10p + 4q$

g)  $17p - \{-(-4p + 3q) + 8p\} =$

$17p - \{+4p - 3q + 8p\} =$

$17p - 4p + 3q - 8p =$

$5p + 3q$