

Aufgabe 11

a) $3a - (b - a) = 3a - b + a = 4a - b$

b) $6x - (2 + 3x) = 6x - 2 - 3x = 3x - 2$

c) $(a - b) - (b - a) = a - b - b + a = 2a - 2b$

d) $(a + b) - (a + b) = a + b - a - b = 0$

e) $(2x + y) - (0,5x - 1,5y) = 2x + y - 0,5x + 1,5y = 1,5x + 2y$

f) $(3a^2 - 2a) - (a - a^2) = 3a^2 - 2a - a + a^2 = 4a^2 - 3a$

g) $\frac{x}{2} - \frac{y}{2} - \left(\frac{y}{2} - \frac{x}{2}\right) = \frac{x}{2} - \frac{y}{2} - \frac{y}{2} + \frac{x}{2} = x - y$

Aufgabe 12

a) $3x - 2 = 2x - (2 - x)$, weil

$$2x - (2 - x) = 2x - 2 + x = 3x - 2$$

b) $5b - 2a - b = 5b - (2a + b)$

c) $\frac{1}{2}u + \left(u - \frac{1}{2}u\right) = u$, weil

$$\frac{1}{2}u + \left(u - \frac{1}{2}u\right) = \frac{1}{2}u + u - \frac{1}{2}u = u$$

Aufgabe 13**a)**

1) $4b - (2b + 1)$ und $2b - 1$

2) $a - (b + c)$ und $a - b - c$

3) $2 \cdot (a - b)$ und $8a - (2b + 6a)$, weil

$$2 \cdot (a - b) = (a - b) + (a - b) = a - b + a - b = 2a - 2b$$

und

$$8a - (2b + 6a) = 8a - 2b - 6a = 2a - 2b$$

4) $2a + (b - a)$ und $a + b$, weil

$$2a + (b - a) = 2a + b - a = a + b$$

b)

1) $5b - (1 + 3b) = 5b - 1 - 3b = 2b - 1$

2) $(2a - b) - (a + c) = a - b - c$

3) $4b - (2a + 6b) + 4a = 2a - 2b$

4) $(a - (2a + b)) + (2a - (-2b)) = a + b$