

Klammern ausklammern - LÖSUNGEN**M7****Aufgabe 1**

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

b) $(5 + x)(x - 1)$

c) $(3x + 2y)(a - b)$

d) $(3x - 4)(a + b)$

e) $(2x - 1)(a + b)$

f) $(x - y)(a + b)$

Aufgabe 2

a) $(4x + 4)(a - 1) = 4(x + 1)(a - 1)$

b) $(3x^2 + 6x)(a - 1) = 3x(x + 2)(a - 1)$

c) $(2x^2 - 4x^2)(b - a) = -2x^2(b - a)$

d) $4x(a - b) - 3(a - b) = (4x - 3)(a - b)$

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

f) lässt sich nicht weiter faktorisieren.

Aufgabe 3

a) $x(a + b) - y(a + b) = (x - y)(a + b)$

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

c) $4y(x - y) + 3x(x - y) = (4y + 3x)(x - y)$

d) $3a(b + c) - 2b(b + c) = (3a - 2b)(b + c)$

e) $5x(a + b) - 10y(a + b) = (5x - 10y)(a + b) = 5(x - 2y)(a + b)$

f) $2x^2(x - 2y) + 2y^2(x - 2y) = 2(x^2 + y^2)(x - 2y)$

Aufgabe 4

a) $x(a - b) + y(a - b) = (x + y)(a - b)$

b) $x(a + b) + y(a + b) = (x + y)(a + b)$

c) $3(a - c) + 5(a - c) = 8(a - c)$

d) $x(2x + 3y) + y(2x + 3y) = (x + y)(2x + 3y)$

e) $x(a + b + c) + y(a + b + c) = (x + y)(a + b + c)$

f) $3ax(2a - 3b) + 6ay(2a - 3b) = 3a(x + 2y)(2a - 3b)$

Aufgabe 5

a) $\frac{2}{3}\left(a - \frac{x}{4}\right) + 8b\left(a - \frac{x}{4}\right) = \left(\frac{2}{3} - 8b\right)\left(a - \frac{x}{4}\right) = 2\left(\frac{1}{3} - 4b\right)\left(a - \frac{x}{4}\right)$

b) $\frac{1}{5}x^2\left(3x - \frac{1}{2}y\right) + \left(3x - \frac{1}{2}y\right) = \left(\frac{1}{5}x^2 + 1\right)\left(3x - \frac{1}{2}y\right)$

c) $x^2\left(-\frac{2}{5}x + \frac{1}{2}y\right) + \frac{1}{3}ax\left(\frac{2}{5}x - \frac{1}{2}y\right) = \left(x^2 - \frac{1}{3}ax\right)\left(-\frac{2}{5}x + \frac{1}{2}y\right) = -x\left(x - \frac{1}{3}a\right)\left(\frac{2}{5}x - \frac{1}{2}y\right)$