

Distributivgesetz: Übungsaufgaben mit Variablen

a) $2 \cdot (18 + x)$

b) $7 \cdot (y + 3)$

c) $5 \cdot (7 + 4)$

d) $3 \cdot (15 - t)$

e) $4 \cdot (-3 + s)$

f) $5 \cdot (-11 - m)$

g) $0 \cdot (13 + n)$

h) $11 \cdot (-m + 3)$

i) $11 \cdot (-m - 3)$

j) $-11 \cdot (m + 3)$

k) $-11 \cdot (m - 3)$

l) $-11 \cdot (-m - 3)$

m) $3 \cdot (8s - 15)$

n) $4 \cdot (-4 + 8m)$

o) $(8 - 5x) \cdot 4$

p) $(-13p + 9) \cdot 3$

q) $-9 \cdot (-m + 3) - 4$

r) $12 + 3 \cdot (2t - 1)$

Fortgeschritten (mit 2 Variablen, vgl. fg. 8)

s) $5 \cdot (x + y)$

t) $6 \cdot (x - 2y)$

u) $a \cdot (c + 8)$

v) $15 \cdot (x - y)$

w) $10 \cdot (5 + x - 1)$

x) $-10 \cdot (-5 + x - 2)$

y) $-2 \cdot (-5 + 3m - 2k)$

z) $+8 \cdot (5x - 4k) + 7x$

Bonus: $12 + 3 \cdot (a - 3g - 12) + 1$

zur Erinnerung:

$$\begin{array}{l} \begin{array}{c} \overset{2.}{\curvearrowright} \\ \textcircled{+a} \cdot \overset{1.}{\curvearrowright} \textcircled{+b} \textcircled{+c} \\ \textcircled{-a} \cdot \textcircled{+b} \textcircled{+c} \end{array} = \begin{array}{c} \overset{1.}{\textcircled{+ab}} \overset{2.}{\textcircled{+ac}} \\ \textcircled{-ab} \textcircled{-ac} \end{array} \end{array}$$

$$+a \cdot (-b + c) = -ab + ac$$

$$-a \cdot (-b + c) = +ab - ac$$

$$+a \cdot (+b - c) = +ab - ac$$

$$+a \cdot (-b + c) = -ab + ac$$

$$-a \cdot (-b - c) = +ab + ac$$

Lösungen:

$$\begin{aligned} \text{a)} & 2 \cdot (18 + x) \\ & = 36 + 2x \end{aligned}$$

$$\begin{aligned} \text{b)} & 7 \cdot (y + 3) \\ & = 7y + 21 \end{aligned}$$

$$\begin{aligned} \text{c)} & 5 \cdot (7 + 4) \\ & = 35 + 20 \\ & = 55 \end{aligned}$$

$$\begin{aligned} \text{d)} & 3 \cdot (15 - t) \\ & = 45 - 3t \end{aligned}$$

$$\begin{aligned} \text{e)} & 4 \cdot (-3 + s) \\ & = -12 + 4s \end{aligned}$$

$$\begin{aligned} \text{f)} & 5 \cdot (-11 - m) \\ & = -55 - 5m \end{aligned}$$

$$\begin{aligned} \text{g)} & 0 \cdot (13 + n) \\ & = 0 \end{aligned}$$

$$\begin{aligned} \text{h)} & 11 \cdot (-m + 3) \\ & = -11m + 33 \end{aligned}$$

$$\begin{aligned} \text{i)} & 11 \cdot (-m - 3) \\ & = -11m - 33 \end{aligned}$$

$$\begin{aligned} \text{j)} & -11 \cdot (m + 3) \\ & = -11m - 33 \end{aligned}$$

$$\begin{aligned} \text{k)} & -11 \cdot (m - 3) \\ & = -11m + 33 \end{aligned}$$

$$\begin{aligned} \text{l)} & -11 \cdot (-m - 3) \\ & = 11m + 33 \end{aligned}$$

$$\begin{aligned} \text{m)} & 3 \cdot (8s - 15) \\ & = 24s - 45 \end{aligned}$$

$$\begin{aligned} \text{n)} & 4 \cdot (-4 + 8m) \\ & = -16 + 32m \end{aligned}$$

$$\begin{aligned} \text{o)} & (8 - 5x) \cdot 4 \\ & = 4 \cdot (8 - 5x) \\ & = 32 - 20x \end{aligned}$$

$$\begin{aligned} \text{p)} & (-13p + 9) \cdot 3 \\ & = 3 \cdot (-13p + 9) \\ & = -39p + 27 \end{aligned}$$

$$\begin{aligned} \text{q)} & -9 \cdot (-m + 3) - 4^* \\ & = 9m - 27 - 4 \\ & = 9m - 31 \end{aligned}$$

$$\begin{aligned} \text{r)} & 12 + 3 \cdot (2t - 1)^* \\ & = 12 + 6t - 3 \\ & = 9 + 6t \end{aligned}$$

* -4 bzw. 12,
zunächst ignorieren
und am Ende
verrechnen.

$$\begin{aligned} \text{s)} & 5 \cdot (x + y) \\ & = 5x + 5y \end{aligned}$$

$$\begin{aligned} \text{t)} & 6 \cdot (x - 2y) \\ & = 6x - 12y \end{aligned}$$

$$\begin{aligned} \text{u)} & a \cdot (c + 8) \\ & = ac + 8a \end{aligned}$$

$$\begin{aligned} \text{v)} & 5 \cdot (x - y) \\ & = 5x - 5y \end{aligned}$$

$$\begin{aligned} \text{w)} & 10 \cdot (5 + x - 2) \\ & = 50 + 10x - 20 \end{aligned}$$

$$\begin{aligned} \text{x)} & -10 \cdot (-5 + x - 2) \\ & = 50 - 10x + 20 \end{aligned}$$

$$\begin{aligned} \text{y)} & -2 \cdot (-5 + 3m - 2k) \\ & = 10 - 6m + 4k \end{aligned}$$

$$\begin{aligned} \text{z)} & +8 \cdot (5x - 4k) + 7x \\ & = 40x - 32k + 7x \\ & = 47x - 32k \end{aligned}$$

Brackets:

$$\begin{aligned} & 12 + 3 \cdot (a - 3g - 12) + 1 \\ & = \underline{12} + 3a - 9g - \underline{36} + 1 \\ & = -23 + 3a - 9g \end{aligned}$$